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ADDRESSES.

BACTERIOLOGIC DIAGNOSIS IN GYNECIC PRACTICE.*

By HOWARD W. LONGYEAR, M. D., Detroit, Michigan.

GYNECOLOGIST TO HARPER HOSPITAL; PRESIDENT OF STAFF OF WOMAN'S HOSPITAL; CLINICAL PROFESSOR OF GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; COMMISSIONER OF DETROIT BOARD OF HEALTH, ET CETERA.

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Recent developments in the field of serum therapy are making imperative the necessity for positive and accurate diagnosis in all forms of septic infection. The old term "puerperal fever" has given way to the more scientific term, "puerperal infection," and this in its turn is subdivided according to certain clinical manifestations depending upon the principal seat of inflammation. Bacteriologic research has now made possible, and the coming demand for specific treatment is making imperative, the differentiation between the different varieties of infection that attack puerperal women. Some recent observations of mine have led me to believe that the near future will find us also carrying the system of bacteriologic research for diagnostic purposes more and more into the field of ordinary gynecologic practice. The pathology of many diseases attacking the pelvic organs of the female may in this way be made much clearer, and the treatment of them in consequence simplified and made more specific. It may be possible that, with the culture tube and the microscope in one hand and serum therapy in the other, the coming physician will succeed in accomplishing much that is now relegated to the abdominal surgeon.

The present quite prevalent routine practice of curetting the uterus in all cases of puerperal infection is one that must be severely condemned. Curettage of the puerperal uterus, with the abraided surface of its cavity covered with diphtheritic membrane, the result of the presence of certain different forms of cocci and bacilli, or, if simply bathed in the pus formed by the presence of organisms like the gonococci, results simply in adding more fuel to the fire, as the old raw surfaces are quickly recovered, as well as many new ones made by the curette, the latter becoming new foci for the development of the toxin. Accurate bacteriologic diagnosis will do much toward preventing this dangerous practice. The impulse to "do something," and to have an operation, will then give way to rational deduction with specific treatment applied to the known cause, and the curette will be relegated to its proper place, to be used only in cases of retained secundines.

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*An address delivered at the annual meeting of the Detroit Medical and Library Association, October 4, 1897.

In quite recent articles, as well as in society discussions on this subject, there is promulgated the idea—not always specifically expressed, but at least implied—that the streptococcus is the principal factor in puerperal infection. While this may be true in the majority of cases, or in certain localities, yet the staphylococcus will be found to play a very important part, the colon bacillus, will occasionally be found, and the KLEBS–LOEFFLER bacillus, in localities in which diphtheria is prevalent, will be found to be a very important factor in the etiology of puerperal infection. Often the infection will be found to be a mixture of two or more of these, and other bacilli and cocci, such as the bacillus pyogenes fetidus, gonococci, et cetera, may be present. The gonococcus often acts as the primary cause of infection when, if the case be neglected, the natural secretions of the vagina and uterus will become so altered as to permit of the easy access of other germs which destroy the gonococcus, when the case may then appear to be one of primary infection from the germs which entered last. This condition may take place even in the nonpuerperal uterus and vagina. I have seen one case of this kind in which an extensive development of diphtheritic membrane took place as the result of a mixed infection of streptococcus and staphylococcus. The case was so anomalous in my experience, and as it doubtless illustrates an important principle in the etiology of gynesic disease, I will report it in full.

The case, which was referred to me by DOCTOR DEVENDORF on the 24th of last July, presented herself at my office with the following history: Age twenty-six years, married six years, no children, one miscarriage at two months five years ago, menstruation normal, has no pain and has always enjoyed good health up to the beginning of present trouble, which began six months ago. She first noticed a leucorrheal discharge which became watery in character after several weeks, and for the last two or three months has had a bad odor, which has been becoming more and more fetid. Micturition frequent, but not painful. Walking or standing causes a feeling of weakness, but no pain. Bowels regular. Patient complains of sleeplessness and says she feels feverish at night. Pulse 90; temperature 99.8° Fahrenheit. Vulva normal; on retraction of the perineum quite a quantity of extremely fetid, watery fluid gushed out. The finger, when introduced into the vagina, came in contact with a shreddy, friable mass, which gave way to touch with the use of very little force, and through which the outlines of the cervix could be only very indistinctly made out. The sensation to the examining finger was so exactly like that produced by contact with papillary cancer—the so-called cauliflower excrescence—that, on the withdrawal of my finger I was surprised to see it was not covered with blood, there being not even a trace of color on it. On introducing the speculum the entire field was seen to be filled with strips and patches of partly loose and partly adherent diphthertic membrane, which was as thick as heavy buckskin. The entire cervix and surrounding wall of the vagina were covered with this mass of membrane. Before applying anything or disturbing it any further, I sterilized a test-tube, and with sterilized forceps placed a good sized piece of the membrane within and sealed it with cotton. The vagina was then dried with cotton, and without attempting to remove any more of the membrane a good-sized tampon of cotton and lamb's wool, saturated with fifty per cent. boroglyceride, was introduced, and the patient directed to return at the end of forty-eight hours, and to allow the tanpon to remain until she did so, as I desired to observe its effect on the membrane.

The specimen in the test-tube was submitted to MR. TIBBALS, the bacteriologist of the Health Office, who reported on the following day that it contained a mixture of streptococci and staphylococci, but no gonococci or KLEBS–LOEFFLER bacilli.

July 26: Temperature 99°. The tampon was removed with the entire mass of membrane adhering to it. Odor extremely offensive. Digital examination showed a normal condition of vagina and cervix, although the latter was considerably enlarged and very sensitive to touch. By the speculum many superficial abrasions, covered with a very thin grayish white adherent membrane, were observed. The appearance of these patches was much the same as is presented by the well known appearance of the seats of recently detached diphtheria membrane in the throat. The vagina was thoroughly washed with 1–2000 sublimate solution, dried with absorbent cotton, a concentrated solution of iodine and carbolic acid applied to all of the abraided surfaces, this also dried off after a few minutes, and the vagina again packed with wool and boroglyceride.

July 28: Temperature normal. Patient noticed no oder from the discharge, and only a very slight odor was observed on the removal of the tampon. She complained of some pain after the last treatment. The abrasions presented a clean, healthy appearance. I dusted with stearate of zinc and packed the vagina with iodoform gauze, which patient was directed to remove in forty-eight hours.

July 30: No odor. Abrasions much smaller and less inflamed. Repeated previous treatment.

August 1, 5 and 8: Applied tampon with acetate of lead and glycerine, with directions to use an astringent wash daily after the last treatment.

August 21 and 31: I made an intrauterine application of iodine and carbolic acid, as evidence of uterine catarrh was observed. There still remains some uterine catarrh, but the patient feels perfectly well and has no leucorrheal discharge.

The especial points of interest in this case are, first, the presence of pseudodiphtheria in the nonpuerperal vagina; second, the apparent long duration of the microbic action in the vagina, without infection of the uterine cavity or Fallopian tubes, and without producing more symptoms of systemic toxemia. The presence of the cocci in this nonpuerperal vagina, along with the membrane—the product of their activity—would indicate that the natural secretion of the vagina had been changed in some manner so as to permit their growth, while the fact that the invasion of the uterus did not, apparently, take place even after the long continuation of the microbic activity in the vagina and on the cervix, even up to the external os, may doubtless be explained by the theory that the secretion from this organ had not been changed by previous disease, and so still retained its natural germicidal properties, and was enabled to act its part in repelling the invader. The fact that the vagina offers natural facilities for good drainage, is doubtless the reason why the toxins resulting from the microbic growth were not absorbed in quantity sufficient to produce active systemic disturbance.

At the last meeting of the Association of Obstetricians and Gynecologists, held recently at Niagara Falls, the writer reported six cases of puerperal infection in which the KLEBS–LOEFFLER bacillus was found, cultures in each case being made and submitted to the bacteriologist of the Health Board. Two of them were cases of mixed infection, having besides the diphtheria bacilli, streptococci also. Five of the cases were treated with antidiphtheritic serum, and they all recovered, although the cases of mixed infection did so slowly, showing by a continuation of febrile symptoms after the diphtheritic manifestations had entirely disappeared, the necessity for making careful differentiation in diagnosis so as to be able to make the necessary differentiation in treatment. The fatal case was one of the most virulent in its manifestations that I have ever seen, and died on the morning that the report of "pure KLEBS–LOEFFLER" came from the Health Office. The symptoms indicated such profound infection that, at the time of making the culture, I believed the source to be of streptococcic origin, and, in order to loose no time, the antistreptococcic serum was used at once. If the antidiphtheritic serum had been used when she was first seen by me, I feel certain that this woman would have recovered.

To still further illustrate the variety of specific causes of puerperal infection I will mention in brief two cases that occurred recently at the Woman's Hospital.

Both women were confined on the same day, and both exhibited similar symptoms of infection on the third day afterward. Vaginal examination revealed an abundance of white membranous exudate covering abrasions of vagina and cervix in both cases. Cultures from the cervical canal were carefully made and the infection in each case found to be due to the staphylococcus pyogenes albus. As no antistaphylococcic serum could be obtained they were treated on general principles, and both have recovered. As I expect to report these cases in detail in a future paper, I will not enter further into their symptoms or treatment here.

Reliable antidiphtheritic and antistreptococcic serum can now be obtained, and I understand through DOCTOR McCLINTOCK that Parke, Davis & Company will be glad to make the antistaphylococcic serum if it is wanted.

Quite an extensive article on "Streptococcic Infection and MORMOREK's Serum," by DOCTOR GEORGE W. COX, appeared in *The Journal of the American Medical Association*, of September 11, 1897, in which the author speaks in the most positive terms of the efficiency of the serum. He also warns against its use when it contains any chemical which has been added for the purpose of preserving the serum, and says the serum made by MORMOREK contains nothing of that kind, and from his experience and observation he knows that it can be used in any quantity without producing any untoward effects. I understand that Parke, Davis & Company keep this serum in stock, prepared both with and without the preservative, so that it can be obtained in either condition desired, and on very short notice. The antidiphtheritic serum is now so generally used and is in such universal demand that it can be quickly procured from many of the druggists, not only of this city but of the state generally.

With these facilities for obtaining these two reliable serums whose usefulness has passed beyond experiment, and which are now proven to be so powerful in controlling the two forms of infectiom, and with the equal facilities for obtaining the culture tubes necessary for making the cultures, no case should be left to the fate consequent on haphazard diagnosis and consequent faulty treatment. It takes but little time and trouble to make the culture, and if the physician making it has not the time, instruments or experience to make microscopic examination himself, there are a number of reliable microscopists here in this city that can do it for him, and bacteriology is now so generally taught in our colleges that almost every community has one or more physicians competent to make these microscopic examinations. Culture tubes for this purpose can be obtained at the Health Office by physicians of Detroit, and MR. TIBBALS, the bacteriologist of the Board, will make the necessary microscopic examinations and report on them in the same manner as is customary in cultures taken from the throat.

MEMOIRS.

THE TREATMENT OF PUS IN THE PELVIS BY VAGINAL INCISION.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY.]

DEEPLY sensible of the privilege of addressing you this evening, I will endeavor to comply with the request of your secretary and bring my paper within the ten minutes allotted me.

The majority of gynecologists within a comparatively short time, would have judged one advocating vaginal incision and drainage as a cure for pelvic abscess, either lacking in courage or sadly deficient in his knowledge of pelvic pathology. LAWSON TAIT and his followers by their brilliant abdominal work had demonstrated that pelvic cellulitis was only an accompaniment and that the real seat of the trouble lay in the diseased appendages. As each one took up his abdominal work he learned to distinguish, amidst the dense adhesions uniting the omentum, bowels and pelvic organs, the tube or ovary distended with pus and removed it forthwith. As his fingers became more educated the damage from this "cleaning out" of the pelvis became correspondingly diminished. The operations were oftentimes extremely difficult and the mortality quite high. When a case was lost through shock or sepsis, the surgeon would console himself with the thought that the pus tubes demanded enucleation and had he only secured the case sooner, before the strength of the patient had been exhausted, all might have been well. Not infrequently after working through the dense adhesions, the pus tube was found lying upon the rectum and bulging out the vagina. After its removal a careful examination failed often to reveal multiple pockets but only one large sac with thin walls. Oftentimes the specimen was small compared with the labor and danger of the operation but we persevered and removed the offending organ through the abdominal incision because it smacked of crude surgery, of old pelvic cellulitis days if we aspirated and drained from below. If the removal of every particle of the diseased tube and ovary, if so-called clean and thorough pelvic surgery was necessary for the cure of our patients we were bound to give it to them. While the medical journals were filled with arguments for and against the removal of organs but *slightly* diseased, the concensus of opinion was entirely in favor of removing pus sacs, their presence being considered a constant source of danger and annoyance to the patient.

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*Read by invitation at the annual meeting of the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

In the course of time came a revival of the vaginal route for the surgical treatment of pelvic diseases. The knowledge acquired by an immense number of abdominal operations was utilized to the utmost. Methods were perfected and the results correspondingly improved. History simply repeated itself and radical measures prevailed. It was thought necessary to remove from below the uterus as well as the pus sacs in order that the patient might regain her health. In fact it is against the uterus that the ultraradicalism of the day is directed. The dictum of the French vaginal operators is that in operating for bilateral pelvic suppuration one should remove the uterus together with the pus sacs whenever that be possible. To the objection that anything short of complete removal of the suppurating appendages is not clean pelvic surgery, they reply that experience shows that free drainage being established, the suppurating tubes or ovaries do no damage but are soon rendered innocuous by the absorptive process engendered by the operation.

I believe that there is truth in these assertions. The thickened and distorted tube and ovary are gradually freed from their adhesions and resume their natural outlines. Although this necessitates the establishment of free drainage, the removal of the uterus is by no means always demanded. Again, do the more radical procedures come first, as in the history of all surgical advances. They answer their purpose and in fact are almost indispensable, but are but forerunners of methods which are as effective but far more conservative.

I must confess to having been an unwilling convert to the good results following vaginal incision and drainage in the treatment of pus in the pelvis. I had tried this method in a number of desperate cases in which the abscess had pointed in the posterior cul-de-sac and the patient had been so weak from septic absorption as to preclude any abdominal operation. These cases revived unpleasant recollections of aspiration needles, rubber drainage tubes, a long painful after treatment, tedious convalescence interrupted by frequent relapses and sometimes a resort to the radical operation from above after the patient had regained a portion of her strength. I failed to realize that perfection of the technique of the vaginal operation could so change the results.

This technique consists in a wide incision in the posterior cul-de-sac even greater than that commonly employed in vaginal hysterectomy for nonsuppurative disease. The mucous membrane being cut through with either knife or scissors, the forefinger is carried upward with a boring motion until the pus sac is reached, the cavity entered and the pus evacuated. This task may be very simple or exceedingly difficult according to the position of the abscess cavity and the density of the adhesions binding down the pelvic organs. It is here that the educated touch obtained by much manipulation of pathological pelvic conditions through an abdominal incision proves invaluable. One is working even more in the dark than when enucleating a pus tube, deep down in the pelvis, through a small abdominal opening. The adhesions binding the pus sac to the uterus and rectum must be freely broken up. A large rent must be torn with the finger in the pus tube or ovary and all suppurating pockets must be opened. According to the predilection of the operator irrigation can be employed or not, the unflushed cases apparently doing as well as those in which irrigation is used. Pus collections on the opposite side of the uterus should be similarly treated. As a final procedure strips of gauze should be carried to all portions of the exposed cavities, their ends projecting into and filling the vagina. Tight packing with gauze should be avoided as it impedes drainage. The strips should remain in position four or five days when they can be withdrawn easily and the cavity repacked. Usually one or two repackings will suffice when the gauze drain may be omitted and the cavity left to close by granulation. A mild antiseptic vaginal douche will be required daily for a while.

If the operator has been fortunate enough to reach and evacuate all pus pockets, the convalescence in these cases is remarkably uneventful. The temperature and pulse usually fall immediately after the operation not to rise again because of the good drainage secured. When the pus sacs are situated low down in the pelvis and only a thin space separates their walls from the vaginal mucous membrane, they can be evacuated usually without the general peritoneal cavity being opened. However, the fear of entering this cavity in our efforts to evacuate the pus, should never interfere with thorough work. It was learned long ago from our abdominal operations that only exceptionally is the pus in the class of cases under consideration very infectious. Moreover, in working from below ideal drainage is secured and the chances of infection correspondingly diminished.

The after history of these cases is remarkably good. They not only regain their health and resume their occupations, but bimanual examination in a surprisingly short time subsequent to the operation will reveal but little pelvic sensitiveness and thickening. When I have adopted the method because of the exigencies of the case, fully expecting to be obliged to perform a subsequent radical operation, oftentimes I have been happily disappointed. I recall one case in particular of a desperately sick woman in whom the abdominal incision would have caused death on the table. Over a pint of pus was evacuated by the method just described and the patient made an uninterrupted recovery. Examination seven months after the operation failed to reveal the slightest tenderness or thickening at the seat of the former abscess.

I would not wish to be understood as considering the radical removal of hopelessly diseased appendages by the abdominal route to be without a place in pelvic surgery. On the contrary there are cases in which this procedure is the only one which will restore the patient to health. The disease may be so high up in the pelvis and the relations of the diseased structures may be so situated in regard to the rest of the pelvic contents that the abdominal route is clearly indicated. A consideration, however, of the various pathological pelvic conditions and the proper operation to be instituted for their relief would far exceed the limits of this short paper.

Time, with its failures and successes, will do much toward solving still unsettled questions. The vaginal incision operation is not as enticing or as brilliant as a celiotomy, but that, with the proper technique, it is destined to save many a tube and ovary which would otherwise be sacrificed, is, to my mind, beyond question.

903 Columbus Memorial Building.

HYDROSTATIC IRRIGATION OF URETHRA AND BLADDER.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Notwithstanding many physicians have for years treated urethral inflammation by means of the urethral syringe, it has been well understood by those giving special attention to these cases, that the treatment is in most cases not only useless but pernicious. This fact, and the reasons for it, I attempted to emphatically state in a paper read before the Detroit Medical and Library Association in 1896, entitled "The Use and Abuse of the Urethral Syringe." Irrigation of the urethra and bladder under pressure is a very different procedure, and has been practiced a sufficiently long time to give us well defined ideas as to its value and limitations, and it is to present my own ideas derived from experience and also to hear yours that I venture a few words on this subject tonight.

I would speak with due consideration, and not from the standpoint of the optimist or pessimist. Frankly, however, I wish to state that I cannot, with Fred C. Valentine, say that every case of muco-serous discharge with gonococci I have cured in thirty-six hours, and acute cases with purulent discharge in ten days.

The irrigation method was first, I believe, presented to us by Janet something over five years ago, and succeeding him by quite a number, especially in France, so that by some it has been designated the French method. Not until within the past two years have we adopted the method in this country to any great extent, and we owe much to Fred C. Valentine, of New York, for his clear and forcible presentations of the subject. We want forcible presentations of this and kindred subjects until no physician will dare to lazily and ignorantly prescribe for patients suffering from urethral disease. These cases require care, both in making a diagnosis and in carrying out treatment.

I will not enter into an explanation of the technique of hydrostatic irrigation, except in so far as will make clear the general idea to any, if there be such present, not familiar with it. The patient sits or half reclines on the edge of a chair or couch while a reservoir holding one or two pints hangs from two to six feet above him. To the bottom of this reservoir is attached about eight feet of rubber tubing, into the distal end of which is inserted a glass or hard rubber nozzle which fits into or against the meatus, but does not enter the urethra. Besides these necessities there is a bell glass to protect the surgeon's hands and clothing and a thumb stopcock to regulate the pressure.

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*Read before the Detroit Academy of Medicine.

In the instrument stores of today I find a number of metal nozzles which are made to be introduced into the urethra, and through openings back of the bulb the urethra is to be irrigated from behind. To introduce any instrument into an inflamed urethra produces increased irritation, and is in itself an injury. Moreover, one often is obliged to treat acute inflammation of the urethra in which the meatus will not allow the introduction of any instrument of any size, and, lastly, it is the height of short-sightedness for one to imagine that he can pass an instrument into the urethra, irrigating from behind, and escape any real or imaginary dangers resulting from irrigating from the meatus. Not only does he, by his instruments, push the germs farther in, but they close the door so that medication cannot reach them. In a word, then, the use of any instrument in an acutely inflamed urethra should meet with our firm condemnation.

Also, I wish to point out the utter worthlessness of this return current nozzle pictured in some of our recent text-books. When introduced into the meatus either the inlet or outlet is sure to be covered with mucous membrane, making our work without effect. On the part of many there prevails an idea that usually a gonorrhea is confined to the anterior urethra, but unfortunately this is not the case. By far the larger majority of cases not treated by irrigation have posterior urethritis, and when this occurs there are only four plans of treatment to choose from, namely, internal antiseptics, posterior urethra instillation, intravesical injection with a catheter, which being removed the fluid is passed out naturally, and, lastly, intravesical irrigation without a catheter, or, as we speak of it tonight, hydrostatic irrigation. There can be no question but that gentle continued hydrostatic pressure is much less liable to cause injury to the urethra than the passage of any instrument. The anterior urethra can be irrigated with perfect ease, and by pressure upon the urethra at any portion with the little finger passage of septic material backward may be prevented. It is highly desirable to prevent mixed infection, and for this reason the penis should be thoroughly washed, preferably with antiseptic soap, before irrigation and the nozzles having been boiled should be taken from an antiseptic solution.

Now, as to the question, In what cases do you irrigate and with what results? I would answer, (1) in all cases of simple acute anterior urethritis; (2) in all cases of uncomplicated posterior urethritis; (3) in all cases after instrumentation; (4) in most cases of cystitis not due to tuberculosis or malignant growths. Folliculitis, stricture and gonorrheal arthritis do not contraindicate irrigation. Of the cases in which I have methodically irrigated, by far the greater number have passed through other hands and were complicated. A sufficient number of acute cases have been treated to show that much good can be accomplished by irrigation. A few cases I will briefly report.

Case I.—Mr. S., was seen on the sixth day after exposure, and had a mucopurulent discharge. Gonococci were present. I irrigated the anterior urethra with a 1–8000 solution of permanganate of potash, applied a solution of nitrate of silver, twenty grains to the ounce, through urethroscope and again irrigated with potassium permanganate solution. For four days I irrigated twice a day, then once a day. There was never any increase in amount of discharge, and he was sent home well on the sixteenth day.

Case II.—Mr. W., had gonorrhea six years ago, from which he recovered. Now, six days after exposure, he has a distinct gonorrheal discharge. I irrigated with a 1–2000 solution of potassium permanganate morning and night. The first irrigation made him feel faint. On the second day the urethra was sore and urine thready, but there was no discharge. Two treatments were given. On the third day only one treatment. On the fourth day the urine was perfectly clear. Only one treatment given. On the seventh day patient was discharged well.

Case III.—Mr. Y., had never been diseased. On the fifth day after exposure a slight discharge began, in which gonococci were present. I irrigated the anterior urethra with a solution of the bichloride of mercury, 1–20000, and then wiped out through the urethroscope with a solution of nitrate of silver, twenty grains to the ounce, and irrigated with a 1–4000 solution of potassium permanganate. I irrigated with a 1–4000 solution of potassium permanganate daily for the next five days. The discharge never became free, nor was there any pain, but a very few gonococci could be detected in the threads. I ordered him to irrigate himself twice a day, and in about a week he reported himself cured.

Case IV.—A. L., three days after exposure, noticed slight discharge. On the fourth day the discharge was yellow, and gonococci were present. I irrigated with potassium permanganate solution and twice a day for four days. After the second day there was no discharge or discomfort, and on the eleventh day, both portions of urine being perfectly clear, the patient was discharged.

In these cases I have not entered upon full details of treatment. Occasionally a weak solution is used, and sometimes I have given as high as 1–1000. Intravesical irrigation, while usually performed after the second day, is not always done. In these cases what do we find? In the first place there is no medicine to buy or derange the stomach. Secondly, there is no discharge to foul the clothing. Thirdly, there is no chordee or swelling of the penis. In short, in the most successful cases there is immediate cessation of discomfort. Ordinary exercise, even bowling or riding a bicycle, may be allowed, nor is it necessary to restrict the diet.

Keeping the urethra well washed out, as may be done by means of diuretics, does not lessen inflammation or the number of gonococci, but irrigation as we have explained it does cure, and the reasonable explanation, according to Valentine, is that the hydrostatic pressure causes the tissues to become edematous with the antigermicidal fluid producing a field not adapted to growth of the gonococcus, which, it must be always remembered, rapidly develops, not alone on the surface of the mucous membrane but in the epithelial and subepithelial structures.

Now, lest you think me an optimist, I wish to relate a case or two in which, although having had the patients under observation from an early stage of the disease, the results were not brilliant. In some of these cases the cause of delay can be explained and avoided, in the others failure is no more marked than is that under any other known method of treatment.

Case V.—Mr. H., exposed ten days ago, has had discharge for three days, containing many gonococci. Urethral irrigation employed, and after ten days there was no discharge or swelling. I continued treatment until the seventh day. The anterior sphincter in this case did not relax easily at any time, therefore, without sufficient reason, I did not make satisfactory intravesical irrigation, and on the eighth day patient had a temperature of 103° and a pulse of 110. There was considerable heat and tenderness in the region of the seminal vesicles. I did not irrigate, but gave the hot bath with capsules of quinine and acetanilid. Next day the fever had gone. Discharge containing gonococci returned and after the second day irrigation was begun, determining this time to thoroughly irrigate the bladder, and I was gratified to see that each day he was better than the day before, and is now, twenty-two days since first seen, nearly well. Here the irrigations have made him comfortable and I doubt not, had his irrigations been given with the experience gotten from this case, there would have been no complications.

Case VI.—W. H. S., had gonorrhea four years ago. He was with woman January 29 and February 6, coming to me February 9 with long foreskin, slight puffiness about the meatus and a very slight discharge containing gonococci. Patient is sandy complexioned, thin and very anemic. He is very sensitive to pain, so before irrigating I applied cocaine through endoscope. After irrigating on the 10th, 11th and 12th there was no discharge, the mucous membrane was pale and puffiness had gone. On the 20th he was nearly well, and as he lived at a distance I allowed him to irrigate himself, which he did, and came in after two weeks feeling good, yet there were a few threads in urine containing gonococci. Posterior urethritis developed with prostatitis and fever lasting several weeks, and not until September 1, some seven months, can the patient be said to have been cured. In this case it must be mentioned that after the first seeming cure he cohabited with a woman and was worse thereafter. In this, as in two other cases somewhat difficult to cure, long foreskins were present. That long foreskins may be and are factors in producing mixed infection I have little doubt.

Case VII.—Mr. S., contracted gonorrhea April 1, 1897, and treated himself for over a week with injection brou, when he came to me with posterior urethritis. Patient had long foreskin, was extremely sensitive to pain, and like Case VI very anemic. At first I gave anterior irrigations until he should become accustomed to the treatment and the fluid allowed to enter the bladder, but within a few days he developed epididymitis and left town to remain at home for several weeks. In this case, knowing that posterior urethritis existed, I should have either immediately used cocaine and made an intravesical irrigation and insisted that it be done twice a day for a few days, or treated him for a timely internal medication.

Just how far we should attribute failure in these two cases to the bad condition of the patients I am, as yet, unable to say. Both were bookkeepers with very little vitality, and both had been very negligent as to sexual hygiene.

Treatment of urethritis with complications as well as that of simple urethritis requires good judgment, and in addition to this the more experience the better. The great majority of cases of this character have been through other hands and are complicated before coming to me. Under the irrigation method of treatment the old dictum of Ultzman for acute cases, "Gar nicht behandlung in erste woke," falls to the ground, as also that other adage which I have heard Fenger repeat, "when complications arise stop all treatment of the urethra." Since irrigating I have seen more cases of epididymitis than usual, and in these cases have delayed intravesical irrigation for two or three days only and then irrigated freely, with the result that all have rapidly recovered, the second portion of urine becoming clear in a very short time.

When posterior urethritis existed at the first visit I have seen complications follow two cases—epididymitis in one and prostatitis in the other. The lesson learned from these cases is this: When anterior urethritis alone exists one can accustom the patient to irrigation by irrigating gently the anterior urethra, then intravesical irrigation may be carried out, complications will not result and recovery will as a rule be rapid and uneventful, but when posterior urethritis exists from the first intravesical irrigation must be frequently and thoroughly performed.

In cases complicated by inflammatory thickening of urethra, or folliculitis, or in which instrumentation is desirable, irrigation will prevent septic or urethral fever and aids in the resolution and absorption of inflammatory products.

Finally, irigation to be effective must, in acute urethritis, be done twice a day for the first few days. It must be done by the surgeon himself with great care to bring about as far as possible aseptic conditions, and especially so when the patient has a long foreskin. Irrigation at once stops discharges and prevents chordee or inflammatory swelling of the penis. Irrigation in my hands cures permanently a majority of cases of specific urethritis in a much shorter space of time than any other method of treatment. Patients need little instruction in exercise or diet. Irrigation, systematically and properly performed, will be followed by fewer complications than any other treatment. Complications existing do not contraindicate irrigation. Irrigation requires more work on the part of the physician, and possibly at the time a greater expenditure on the part of the patient which is fully returned to him in greater comfort. Occasionally one will be disappointed even in irrigation.

73 Cass Street.

THE TREATMENT OF POSTERIOR HYPERTROPHIES WITH AN IMPROVED SNARE.*

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Of the many divisions and varieties of hypertrophic rhinitis, we will detain you but for a few minutes with a few notes concerning the important class of posterior hypertrophies of the inferior turbinated bodies.

In regard to the etiology of hypertrophic rhinitis we find a wide variety of opinions, there being enumerated as causes the inhalation of irritating dust and gases, continued exposure to inclement changeable weather and an impaired condition of the general system. This last factor the writer is disposed to lay considerable stress upon. Many of the cases seen and treated evinced an impairment of the proper regulation of the functions of the body so that even slight chilling of the surface of the body was followed by congestion of the internal organs particularly of the mucous membranes provided with venous sinuses. The repeated filling or dilatation of these venous sinuses brings about what is known as intumescent rhinitis This condition, if further continued, results in a proliferation of cells with deposition of fibrous tissue constituting a true hypertrophic rhinitis.

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* Read before the Wayne County (Detroit) Medical Society.

The subjective symptoms of posterior hypertrophies are a sense of fullness or obstruction in the nose, particularly increased upon lying down, so that respiration at night is changed from nasal to buccal. There is a sensation of something back of the palate which it is impossible to dislodge although constant efforts are made to do so, and more or less discharge of thick mucus from the nose into the throat. These symptoms may or may not be attended by accompanying tinnitus aurium and other aural complications. By the aid of the rhinoscopic mirror in those cases in which an examination is practicable, the diagnosis is at once made if we find the opening of the posterior nares encroached upon by a pale irregularly-shaped mammillated mass. The appearance is somewhat that of a white raspberry. Where a rhinoscopic examination is made with difficulty, the cocainization of the edge of the soft palate and the use of White's palate retractor or the elastic tapes may be of great assistance. Care in the use of the cocaine should be directed to the avoidance of the application of the solution to the hypertrophied mass as it may shrink somewhat and on inspection seem hardly prominent enough to cause the symptoms complained of. If a satisfactory diagnosis cannot be made by the use of the rhinoscopic mirror and anterior rhinoscopy fails to reveal the cause of obstruction, we have found that when a patient complains of marked obstruction after lying down, with gradual relief after being upon the feet or after the ingestion of food, we have to deal with a case of posterior hypertrophy.

In regard to treatment, the use of sprays, except in those early cases in which there has taken place no deposits of new fibrous tissue, is to be mentioned only to be condemned. The dillydally spraying of the nose in conditions which can only be relieved by surgical measures has done much to spread the belief among the laity that the medical profession knows very little about the treatment of so-called catarrh. The removal of fibrous hypertrophies can be effected only by cauterization, or by surgical measures.

In regard to cauterization, the use of chemical escharotics in the more inaccessible regions of the nose is attended with the difficulty of controlling the extent of the caustic action. In using the galvano-cautery we are confronted with the necessity of watching the application of the point with the rhinoscopic mirror to avoid the regions of the Eustachian orifices.

In 1880 Doctor Jarvis presented to the notice of the profession his cold wire ecraseur for the removal of these posterior hypertrophies. While in selected cases this was a very valuable instrument, yet necessitating, as it did, the application of the wire loop while it was under observation was a detraction from its usefulness. In patients in whom the nasal chambers are very narrow it is almost impossible to engage the loop over the hypertrophy as the loop emerges from the canula in the same axis as the long diameter of the nose. After a number of failures to use the Jarvis snare in cases in which the space between the septum and inferior turbinated bone was very small, the writer devised the following modification of the Jarvis snare. A small hole is drilled through the distal end of the canula about one-fourth inch from the end. Through this side opening the wire is introduced causing the loop to project from the side instead of from the end of the canula. When it is desired to introduce the snare the loop is straightened so that it is parallel with the canula. When the snare is passed back so that the loop is felt to impinge upon the posterior wall of the pharynx, the screw upon the handle is given one revolution. This causes the loop to project at an angle of forty-five degrees and on pulling the handle slowly from the patient the loop will be felt to engage the hypertrophied mass. Gentle traction while the loop is being tightened will prevent the loop from slipping during removal of the growth. The advantage of this snare is that it is unnecessary to use the rhinoscopic mirror for the operation as when the loop is introduced along the lower border of the inferior turbinated bone and then drawn forward it must encircle the posterior end of the inferior turbinated body.

In regard to anesthesia for the operation, I prefer a five-per-cent solution of eucain, as with its employment there is less contraction of the polypoid mass with greater certainty of the entanglement of the wire loop. In certain cases in which it seems advisable to employ a general anesthetic I have used nitrous oxide with very gratifying results.

In regard to the after treatment, the patient is recommended to remain quiet for twelve hours and to insert small pieces of ice in the back of the mouth at frequent intervals. In this way I have found postoperative hemorrhage to be reduced to a minimum.

A SYMPOSIUM ON TYPHOID FEVER.

THE THERAPEUTIC TREATMENT OF TYPHOID FEVER.[*]

BY WILLIAM R. CHITTICK, M. D., DETROIT, MICHIGAN.
CLINICAL PROFESSOR OF MEDICINE IN THE DETROIT COLLÈGE OF MEDICINE.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

AT the request of our president, DOCTOR INGLIS, and for the purpose of opening a discussion on the treatment of typhoid fever, I have prepared the following short notes on the *therapeutic* treatment of this disease, and in conjunction with DOCTOR WADSWORTH WARREN, who will take up its *dietetic* treatment.

Typhoid fever is a specific, infectious febrile disorder, sporadic or epidemic, often communicated by the contagions from stools, characterized by lesions chiefly of the intestinal and mesenteric glands and the spleen, with the constant presence in them of the bacillus of EBERTH. The disease is marked clinically by a variable fibrile course which lasts three or four weeks, a rose-colored macular eruption, and cerebral, pulmonary, and abdominal symptoms.[†]

Typhoid fever exists in almost all parts of the world, and its specific germ possesses great vitality. It is widely diffused by running water. Defective sewerage is mostly responsible for the wide distribution of the germs of this disease. In cities where there is generally efficient drainage, there is, as a rule, a comparatively small number of cases. But in the country, where there is always a chance that the sewage will contaminate the supply of drinking water, and along the shores of our Great Lakes from whence our lake sailors, and indeed the inhabitants of many of our lake villages, towns, and even small cities frequently obtain their supply of drinking water, it is noticeable that there a greater percentage of cases exist, and regarding the frequency and severity of *true* typhoid fever cases, I think the records of our lake marine hospitals will show that they lead the list. Ignorance and shiftlessness (in spite of the repeated admonitions of our state board of health) are responsible for most of this. Of course we have many cases of typhoid fever in our best cities. But most of them occur during the fall months—after the customary summer vacation. Also many of them occur among the poorer classes—those who are compelled to roam about from place to place. And so, under such circumstances, it is not wonderful that such persons often are exposed to the germs of typhoid fever.

[†] "An American Text-Book of the Theory and Practice of Medicine," page 52.

[*] Read before the Detroit Academy of Medicine.

In dry seasons, it is true, there is more general danger of contagion on account of the greater opportunity for the development of the disease germs in partly dried water puddles, and their dissemination afterward by the wind. Susceptibility, of course, must be taken into consideration. However, I would rather charge the special weakness to lowered vitality.

Immunity at one time, and susceptibility at another under the same circumstances, to me points to the variability of the virulence of the typhoid germs. Indeed I think the whole history of the contagiousness of this disease will bear me out in this theory. The contamination of the *milk* supply must not be lost sight of—either in this or any other contagious disease. For the sake of discussion only I will mention "nostalgia" as one cause of susceptibility to typhoid fever.

The characteristic postmortem lesions of typhoid fever are found in the *lymph* structures of the intestines, the colon and lower part of the ileum being the parts usually involved. This furnishes us an indication regarding the therapeutic treatment. Delayed resolution tends toward necrosis, sloughing, ulceration, and finally hemorrhage. This from the fourteenth to the eighteenth day of the disease. So it is then, that we should watch most carefully. Cicatrization begins about the twenty-second day, and continues for about two weeks afterward.

TYPHO-MALARIAL FEVER.—If anyone doubts the existence of such a disease, let him read the article on this subject by DOCTOR W. GILMAN THOMPSON, in the "American Text-Book of the Theory and Practice of Medicine," Volume I, page 431. Evidently this writer tries hard to bend to the statement of the editor, PROFESSOR WILLIAM PEPPER, M. D., that such a distinct disease does not really exist. However, there is a great difference in the mortality of these two "conditions."

TREATMENT.—Prophylaxis is the most important. Pure drinking water and pure food supply—*especially milk*—is the first necessity.

Regarding the "Woodbridge treatment" I have little to say bearing upon its efficacy. I have given it a fair trial, in hospital practice, and have noticed no superior results. However, others, distinctly as sharp observers as myself, have reported great advantage from its use, and in deference to their opinions I would recommend it for further trial. It must not be forgotten, however, that many cases of typhoid fever recover without any special therapeutic treatment. Our late DOCTOR LONG, of the marine hospital service, reported twenty such recoveries in twenty cases. He merely pushed milk diet, with efficient doses of quinine for hyperpyrexia, and we know that sailors always present unusually bad cases. Last July, in Berlin, I was told by PROFESSOR RANVIERS that he had treated in the Berlin City Hospital last year one hundred and seventy cases of typhoid fever with only twelve deaths, and some of his cases came in almost moribund. No general treatment *whatever* is given ANY of his patients now. He only prescribes for emergencies or complications as they arise. Otherwise he merely gives placebos and pushes nourishment. This is his hobby just now. In Saint Mary's Hospital, for years past, we have rarely lost any *female* cases of typhoid fever. In the *male* wards, however, it is different. This is undoubtedly due to previous exposure and social conditions.

Turpentine.—The very best *single* remedy in typhoid fever. It is antiseptic, stimulating, astringent, diuretic, and indirectly sedative. If I were restricted to a single remedy in the treatment of typhoid fever, I would choose turpentine above all others.

Quinine.—The best general antipyretic. We need it in treating typhoid fever. The alkaloid is best because it reaches the intestine before fully dissolving.

Iodine.—A valuable antiseptic. Perhaps we obtain this action in typhoid fever, especially in combination. I do not trust it, however.

Phenic Acid.—An excellent antiseptic. In typhoid fever its use is necessarily limited. Often given in combination with iodine.

Thymol.—Of little real use alone.

Salol.—A good mild antiseptic, but not reliable.

Iodoform.—Inferior to aristol.

Aristol.—An iodide. One of the very best intestinal antiseptics. It dissolves slowly and therefore reaches the intestines before becoming fully active. Is also astringent, and an alterative.

Mercury.—The iodides of mercury are greatly antiseptic, as well as alterative. Calomel, in the beginning, in large doses is often very valuable.

Salicylic Acid.—The salicylates are of comparatively little use in typhoid fever.

Antipyrine, *Antifebrine*, *Phenacetine*, *Acetanilid*, and other similar coal-tar antipyretic products are of doubtful value, except in rare instances of very high temperature. In that case acetanilid, fortified with small doses of an opiate, gives excellent results most always.

Opiates, especially codeine, often give excellent sedative effects. Opium or morphine, in very small doses, is an excellent cerebral sedative in just such cases.

Alcohol should be used with caution, and reserved for special periods of depression.

Baths.—"The Brand method." Curiously enough, as in too many other like instances, the former advocates of this method are cast in the shade. **Currie**, of England, nearly a century ago first advocated this remedy in typhoid fever. Then in 1861 **Brand**, of Stettin, revived it, and **Jürgensen**, of Kiel, followed in 1866. But again **Brand**, now of Tübingen, in 1877 gained the upper hand, and since then a special form of cold bath in typhoid fever has borne his name. **Brand** goes so far as to say that every case of typhoid fever treated from the first by his method of cold baths will *surely* recover. Now if this be true then we have to look no further for a perfect cure of all cases of typhoid fever. But, unfortunately, hundreds of equally skillful observers do not agree with him. I fear **Professor Brand**'s reputation will yet come to grief if this theory is persisted in. Personally, I would greatly prefer to follow the indications gained by a close study of physiology—in this as well as in all other pathological conditions.

Sponge baths are entirely admissible, sometimes with alcohol.

I should be very careful in the free use of ice. I think any sudden reaction from heat to cold bad for the patient.

The cold water coil is occasionally useful. The water bed is less so.

270 Woodward Avenue.

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*THE DIETETIC TREATMENT OF TYPHOID FEVER.**

By WADSWORTH WARREN, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

In the administration of food in typhoid fever we have to pay special attention to the state of the digestive and assimilative organs as influenced by the existing pathological processes.

In all febrile diseases, while the tissue waste and the demand therefore for food are augmented, the capacity for digestion and appropriate nutriment is greatly impaired and, in our eagerness to supply food to compensate for the loss of tissue, we are likely to work injury to the patient if we lose sight of the coexisting disability of the digestive and assimilative processes. In addition to the enormous tissue waste and impairment of digestive and assimilative power accompanying all febrile conditions, we have in typhoid fever to reckon with a special pathological condition in arranging the patient's dietary.

When a person is infected with typhoid by swallowing the bacilli in food or water the germs make their way by preference to the **Peyer**'s patches and solitary glands of the gut where they find suitable soil. Here they multiply and, by their irritating presence as well as by the poison which they excrete in the act of living, give rise to inflammation of the closed follicles. The glands swell and become solid, ulceration follows and a slough is finally loosened and thrown off. The walls of the glands are succulent and vascular and considerable hemorrhage may arise from the sloughing. Besides, the ulceratiom may extend more deeply through the muscular, even into the serous coat of the gut and result in perforation. If the process is gradual the inflammation generally extends to the peritoneum; exudations are thrown out and adhesions take place between the peritoneum and the thinned intestinal wall. These inflammatory adhesions form a false wall to the gut and prevent the escape of its contents into the abdominal cavity. The ulceration may be so severe and rapid as to cut off the blood supply of the serous coat in which case the latter undergoes necrosis, perforation occurs, the intestinal contents pass into the peritoneal cavity and fatal peritonitis ensues.

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* Read before the Detroit Academy of Medicine.

This elementary review of the special pathology is only introduced in order to emphasize one of the chief points to be borne in mind in feeding typhoid patients, that is, that we must exercise eternal vigilance to prevent irritation and erosion of those weakened spots in the intestinal tract. With these points in mind we can say that the diet must be one which will—(1) Sustain the patient's strength. (2) Give the intestinal tract physiological rest. (3) Provide fuel for waste and so save some of the enormous tissue waste.

To sustain the strength the diet must be comparatively rich in all the food principles.

To give the intestinal tract rest it must be fluid and easily digested, or rather, quickly absorbed.

To supply the fuel for waste it must furnish heat-producing elements whose combustion will conserve the tissues themselves.

In regard to milk, the advantages are:

It is fluid, cheap and convenient. It contains all the essential elements of nutrition.

Many patients digest and absorb it readily.

It supplies fluid to the tissues and is a good diuretic.

Properly administered it is soothing when mild gastric catarrh exists.

Many patients can subsist on an exclusive milk diet for a month or six weeks.

Some patients who dislike milk at first, may grow accustomed to it and take it contentedly for many weeks.

The disadvantages of milk in typhoid may be summed up as follows:

While outside the body it is fluid, within the stomach undiluted milk becomes almost solid and firm; milk curds are likely to be quite as or even more irritating to the ulcerating gut than are starchy foods.

In many patients, to whom in health milk is distasteful, the digestion and assimilation of it in the typhoid state becomes quite impossible. It causes constipation with clay-colored stools and fills the bowels with the products of malfermentation, ptomains and gases.

It interferes rather more than other foods with intestinal antisepsis and forms a suitable culture medium for the typhoid bacillus.

Some cases of typhoid present symptoms resembling scurvy, with swollen and bleeding gums and great emaciation because fed too long on an exclusive milk diet which they failed to assimilate.

Notwithstanding these points a milk diet is the one best adapted to a majority of the cases, and no doubt the one that will give the best results providing we bear in mind its limitations.

It should always be sterilized and diluted. Apollinaris or Salutaris water and milk, equal parts of each, administered at regular intervals of two to three hours so that the patient shall get from forty-eight to ninety-six ounces per diem makes an ideal diet.

In addition the "russiches thee" of the allegemeine krankenhaus of Vienna, with or without milk, makes a grateful change for the patient. When taken without milk a bit of lemon in the cup will improve the flavor. Tea will have an especially good effect if there is a tendency to diarrhea.

When no such tendency exists strained soups of veal and chicken, mutton and even beef may often be used to advantage, though after their administration the stools and temperature and condition of the abdomen must be carefully watched. Some celery, parsley, bay leaves, parsnip, carrot, potato or cabbage finely divided, placed in a secure muslin bag and allowed to remain in the dish with the boiling meat, will add an astonishing amount of palatability to any form of meat broth without adding any dangerous vegetable fibre. Alcohol should never be used as an article of diet in typhoid and discussion of its administration belongs to DOCTOR CHITTICK's paper by mutual agreement.

As to farinaceous foods, their use should be limited in all cases and proscribed in the most severe attacks, except when partially predigested or so prepared that the starch particles can be easily broken up.

When milk cannot be tolerated at all, or is for some reason contraindicated, Mellin's or Nestle's food, barley water, farina, arrowroot, and other gruels may be used. But the effect of any of these preparations must be carefully watched.

In cases in which the emaciation is extremely rapid some of these adjuncts to the milk diet should be tried. Eggs beaten up lightly with hot water or sherry are often well borne and do no damage. They may be seasoned with common or celery salt.

In the season, watermelon may be and is very successfully used. The fibre, if any remains, must not be swallowed.

Great care is needed in the supervision of the diet in convalescence from typhoid. Much firmness is often required in resisting the patient's urgent entreaties for more liberal and varied diet. The appetite is often voracious and the craving for food after the prolonged period of inanition he has passed through, is almost irresistible. But it must always be remembered that the digestive powers are still very limited and that any solid food that escapes digestion in the stomach may act as an irritant in passing along the intestines, still the seat of slowly healing ulcerative and inflammatory processes. It is a matter of common experience that the smallest indulgence in solid food during the first few days of convalescence from typhoid is frequently followed by a rise in temperature and sometimes by a serious relapse.

The return to solid food, depending on the severity of the case, should not occur until four to fourteen days after the subsidence of the fever and should then be gradual and graded. At first it may be meat or chicken broths thickened with well boiled rice, milk toast or cream toast. Then some tenderloin steak chewed, not swallowed, and so on, adding a new dish each day, in an effort to satisfy the ravenous appetite of the convalescent, but prepared at any moment to revert to the old diet in case there is a return of the fever.

I am much indebted in the preparation of this informal sketch, to suggestions by DOCTOR MANN and DOCTOR T. H. WALKER, and to the works of YEO, THOMPSON and MRS. ERNEST HART.

51 FORT STREET WEST.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

ANNUAL MEETING, OCTOBER 4, 1897.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR REUBEN PETERSON read a paper entitled "The Treatment of Pus in the Pelvis by Vaginal Incision." (See page 5).

DOCTOR CARSTENS: This paper so thoroughly covers the ground, is so conservative in its character, and is so unbiased that really there is nothing to be said. I think I perfectly agree with everything the doctor has said. He does not claim that pus in the pelvis should always be treated by vaginal incision, but specifies the cases in which other methods of procedure must be adopted to which we all agree. Many of us who can remember back twenty years know that when we came across cases of pus in the pelvis our plan of treating was by vaginal incision. I frequently had the greatest difficulty in keeping the incision open, and I even devised an instrument which when placed in the incision allowed better drainage, but after that era came abdominal surgery with its many advantages. The doctor states that it depends on the case, and that is all there is to it. In those cases in which there is a large collection of pus, in which the woman is run down from absorption of septic material in the system, in which perhaps a previously diseased condition of the uterus or uterine appendages is in all probability at the bottom of the trouble, if a vaginal incision is made and the pus evacuated, the woman picks up but afterward you are obliged to do a radical operation by abdominal section removing all the diseased organs. The question hangs largely upon a proper diagnosis. One point which I was glad to see the doctor make was that the incision must be large enough. The vaginal muscles possess a highly contractile power, and you cannot make your incision too large. That is the great point in the technique of this operation.

DOCTOR METCALF: That particular point in the doctor's paper in which he speaks of the tendency toward conservatism in the treatment of these cases is one that is attracting considerable attention to the subject of gynecology. By conservatism we do not mean simply the preservation of organs but the preservation of organs which may have a future function. Provided pus has accumulated in both tubes their function is no doubt forever destroyed. I cannot see that we will gain much in such cases by dissecting through considerable infiltrated tissue to evacuate these tubes, the lining membranes of which continue to secrete and keep up the discharge of pus. I believe the better plan is to ligate the tube and completely remove the suppurating focus which is a comparatively easy thing to do. Of course, in such cases, if we wish because of the debilitated condition of the patient to gain time in which to tone up the system for the more radical operation of abdominal section I think that is the main place for that method which the doctor has advocated. It is certainly a very difficult procedure indeed when the pus is situated high up in the tubes to effect a cure by vaginal incision in order to evacuate their contents. The method is a faulty one in my opinion and should not be recommended. However, the same condition prevails here as we find in appendicitis in which it is bad surgery to search for the appendix; for to do so necessitates the breaking up of the wall of lymph which nature has built up to protect the abdominal cavity. In cases of pelvic inflammation in which the uterus is fixed it is much easier to remove the uterus and appendages leaving the pus to drain away through the vagina. The drainage is perfect; the lymph-covered surface above will heal rapidly. Convalesence is also rapid. It affords me pleasure to recall the fact that in a paper before the State Medical Society in 1894 I advocated strongly the treatment of all pelvic lesions through the natural passage—the vagina.

DOCTOR LONGYEAR: The paper is a valuable one, and is in line with the present tendency of the abdominal surgeon to become a little conservative. The time, as the doctor states in his paper, when we were taught that these pus tubes must all be taken out through the abdominal route is passed, and we are beginning to advocate the distinction between those which must be removed in this latter manner and those which can be drained through the vagina. I can look back in my practice to several cases in which the patients were run down with septic fever and emaciation had advanced to a pronounced degree. In these I believe if I had followed this plan of drainage first as a preparatory measure and then performed celiotomy afterward if necessary, my patients would have recovered. We must simply differentiate between the two kinds of cases, the one in which the system has been vitiated and debilitated by this perpetual drain and contamination by septic material resulting in fever and bringing the patient to a condition where there is very little resisting power of the body, and on the other hand those in which there is very little or no septic fever and the patients have a fair amount of strength in reserve to withstand an operation. The matter of sepsis is a most important one. In those cases in which there is a mixed infection the results are usually fatal.

DOCTOR WEBBER: I can say nothing except in commendation of the paper. The reaction which we expected to follow the furore in favor of abdominal operations is taking place. Conservative measures should be exhausted before resorting to the more radical method of treatment. As DOCTOR METCALF says, when the ovaries and tubes are diseased it seems to me that there is very little use in making an effort to save them, but when their function remains all means should be adopted to preserve them. The pendulum is swinging the other way, and the middle channel is the one that will prevail. The proper diagnosis of these cases involving pus in the pelvis will determine the method of treatment and tend to lead us in the proper direction, operating either by the abdominal route or through the vagina.

DOCTOR PETERSON: I have nothing special to add to my paper and know that the time is short. Just a word in regard to one or two points that have been brought up. I cannot agree with DOCTOR METCALF that conservatism in gynecology consists in the preservation of organs which may have future functions. I do not think that that is correct. We do not want to remove tubes and ovaries merely because the woman is not going to bear children in the future. Although there have been thousands and thousands of operations for the removal of tubes and ovaries I do not think we can yet estimate the effects on all women of the removal. We have often heard the statement made, by

JOHNSON, PRICE and others of extremely radical opinions, that these tubes and ovaries are useless. I believe we should be very careful, and seriously consider the harmful sequelæ of complete ablation of the generative organs, especially in young women. I do not think the tubes continue to secrete pus continuously in all cases. In the large majority we will find that they do not continue to do so, and if you make a sufficiently large incision and drain well you will obtain good results and examination nine or ten months afterward will show that there is no discharge, no thickening, and the woman is performing whatever duties she is called upon to do and she has her tubes and ovaries. That is conservative surgery. It is not the same as in appendicitis. Here you do not want to break up the protecting wall of lymph around the appendix or evacuate the abscess allowing its contents to permeate the abdominal cavity because of the dangerous character of the pus contained therein.

DOCTOR HOWARD W. LONGYEAR delivered an address on "Bacteriologic Diagnosis in Gynecic Practice." (See page 1.)

DOCTOR McCLINTOCK: There is only one word I would like to say, and that is in regard to the care which should be taken in making a diagnosis of that kind from a bacteriological standpoint. For that reason I would advocate that the gynecologist should send to the bacteriologist a tube with culture taken from the diseased surface, together with a history of the case, as that will often direct the attention of the bacteriologist to what to look for in his investigations. I would further recommend that a blood tube be made. In such a case a considerable quantity of blood should be allowed to run into the tube, and the site from where the blood is taken previously sterilized. It does seem to me that accurate diagnosis will help materially in the treatment of these diseases.

DOCTOR KNILL: The objection is made to curetting in puerperal infection. I do not think the large majority of cases will bear that view out. There is no question at all but that many cases are decidedly benefited by curetting.

DOCTOR LONGYEAR: In regard to the curetting of the uterus, it is necessary to make a distinction in the class of cases. Those that should not be curetted are those in which there is a diphtheritic membrane present. I think we should be just as careful in scraping that membrane off as if it were in the throat. Of course, when we have puerperal infection from retained secundines, then the use of the curette is necessary and should be promptly applied.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, SEPTEMBER 28, 1897.

THE PRESIDENT, CHARLES W. HITCHCOCK, M. D., IN THE CHAIR.
REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR FREDERICK W. ROBBINS read a paper entitled "Hydrostatic Irrigation of Urethra and Bladder." (See page 8).

DOCTOR WYMAN: I am sorry not to have heard all the paper, but I conclude from the resume that it was an argument for irrigation. I cannot speak of recent investigation of such treatment, but some years ago I tested irrigation with corrosive sublimate, permanganate of potassium and hydrastin, and also with saline solution used both hot and cold. The records of the academy for 1884 will show the results of the younger **MORSE STEWART**'s efforts at irrigation. Others of us tested it at the same time. Such treatment seemed a valuable aid, but did not seem to shorten the duration especially. In fact I should like to see any plan that will shorten it materially, from say three or four weeks to three or four days. We often hear that it is no worse than a cold, but all the cases that I have seen have been worse. I have rarely seen a case get well in less than three weeks, and when it has done so I have doubted whether it was a real case of gonorrhea. Yet a gleety discharge coming on after a debauch will get well in a few days under the use of sandalwood oil.

DOCTOR CHITTICK: I do not see many cases of this class now, but formerly I saw a good many. Those I do see now are in my family practice. I have had no experience in the use of irrigation, but wholly in the old line treatment. I should be afraid that the pressure would drive the cocci down deeper and cause complications. I have occasionally irrigated the bladder through a catheter, and when the bladder was full removed the catheter and allowed the bladder contents to pass out in the natural way. I have obtained good results in females in irrigation with weak solutions when the hips were elevated. I have found that the disease occurring in red-haired people was more intractable than in other people.

DOCTOR HOLMES: My experience with this form of treatment is limited, and I found more complications arose than with the other methods. The theory is surely good, and this way seems to relieve symptoms quickly, yet I should regulate the amount of food, guard against too much exercise, stimulant, and use internal treatment, too.

DOCTOR H. D. JENKS: I have used irrigation in some form for gonorrheal cases for more than two years. At first it was by the catheter inserted a few inches so as to get washing of the penile portion of the urethra. The insertion of the catheter caused a good deal of pain, and this pain persisted for about one hour. The results are good, better than under the old methods, but did not seem as effective as the present method, which also includes bladder and deep urethral irrigation. I use the method spoken of in the paper now on all cases in which it is possible. It seems to me the great advantage of this method over others is that the patient is under much closer observation, and that complications rarely occur, and finally that the method is usually very acceptable to the patient.

DOCTOR HITCHCOCK: I recall that instillations into the deep urethra from the prostatic syringe are painful and cause complications. I should think that deep irrigations might act in the same way.

REPORTS OF CASES.

DOCTOR WYMAN reported a case of appendicitis in which the appendix was found to be seven inches long and three-fourths inch in diameter. It was so large that he thought it might be a part of the intestine, and that the perforation might be a perforation of the intestine. The patient is recovering from the operation for removal.

DOCTOR CHITTICK reported a serious accident, the result of a fall on the floor, in a young physician. He must have struck on his back. His left leg was pyralyzed; his testicles were retracted, as a result. There was a question as to the seat of the injury and as to the prognosis.

STATED MEETING, NOVEMBER 9, 1897.

The President, DAVID INGLIS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctors **William R. Chittick** and **Wadsworth Warren** read papers on "Typhoid Fever." (See pages 14 and 17.)

Doctor Cree: I have not been fortunate in having many cases, but I am pleased to hear the papers. Regarding treatment I use as food, milk diet when properly digested, but I often have to drop this or to mix the milk with limewater. I feed every two hours. For drugs I use codeia in place of morphine, and salol, and sometimes sulpho-carbolate of zinc. I have used turpentine in emulsion but latterly have had capsules made of asafetida and terpentine which work well. The Woodbridge treatment seems to me to be an attempt to render the intestine aseptic and has no great advantages over other treatments. I find the Brand method impracticable, but use cold sponge baths in its place.

Doctor W. J. Wilson, Senior: I have usually followed the outlines suggested. I have used a mixture of turpentine, hydrochloric acid and pepsin with as good results as any mixture. But I find turpentine offensive to many and so often have to discontinue its use. I believe that turpentine in a capsule is undesirable as it becomes irritating when the capsule melts. I use quinine for its tonic effect. I formerly gave it for high temperature but not recently as I thought it made the patient delirious. The Woodbridge treatment is an antiseptic treatment and in its place I use phenacetin, carbonate of guaiacol and salol combined, and I also use calomel for a day or two at a time, and then stop. I have had good results with this method, though some of the cases have had hemorrhages and complications. Some of my cases I have called typho-malaria. For the hemorrhages I have used lead and ergot.

Doctor Wyman: The writers should be congratulated for their epitomes. The paper on diet was especially practical. Often when attending a case I lose myself in thinking of the theoretical condition of the food instead of the practical point that a sick patient needs proper food. Hot water and egg mixed quickly should be a good food. I think the same condition can be got by mixing water gruels with chopped meats. I am not so fearful of the residuum as some are. I believe that a residuum is necessary, and that soft juicy food should be used for its macerating effect. In this city it is time to express ourselves on the sewage question. We should not empty our sewage into the rivers and great lakes and so contaminate the water. I believe we have natural advantages so that by a gravity system we might carry off the sewage, filter it, and allow the filtrate to empty into Lake Erie, while the residue could be used for fertilizing. I have learned to dread three things—(1) death from exhaustion; (2) death from starvation; (3) death from perforation or hemorrhage. I believe that death from perforation is not death from peritonitis, but from fecal absorption. The peritonitis is nature's way to plug the opening. I believe that when a timely diagnosis of perforation is made that prompt operative procedures do not increase the danger, and will give good results. I do not think we ought to give up hope when perforation occurs, as it is possible that there is small escape of material, and damage can be checked.

Doctor Connor: It has occurred to me that if I were to treat a case of typhoid with the lesions mentioned I should want to have the fullest possible amount of outdoor air. I should prefer to treat it in a tent rather than in the average modern house. The presence of a large amount of oxygen is a necessity as food cannot be transformed into tissue without its presence. Cases in which the windows have been left open, no medicine employed, and plenty of nourishing milk given have frequently recovered.

Doctor MacMillan: I have a case of typhoid in a girl of twenty-five, in a poorly ventilated house, in which a hemorrhage occurred on the fourth day. I used ergot. The pulse decreased, the temperature came down, there was neither pain nor diarrhea. Whether this drop in the temperature is the result of the hemorrhage, or whether by it the toxins were got rid of, I am not prepared to say. My conclusions are that in health poisons are developed, and have to be eliminated, and in typhoid they are increased. The kidneys and the intestines are two organs for the removal of these poisonous products. I should, therefore, avoid terpentine for its effect on the kidney. In a case that I had, the patient died from hemorrhage of the kidney. A great deal is to be got from diet and intestinal antiseptics.

Doctor Safford: I should like to ask **Doctor Chittick** how he uses turpentine? I feel the importance of antiseptics and I believe salol the best one to use. I think of the kidneys, and insist on a liquid diet, but also upon a good deal of water. Liquid albumin is useful as well as the hot water and egg.

Doctor Van Slyke: I have been impressed at Saint Mary's Hospital with two things: that patients can stand more solid food than is supposed; and that enemata of water have been useful to lower temperature.

Doctor Metcalf: Typhoid fever used to be more common on the west side than it is now. I believe that prophylaxis is important. When the prodromata appear I believe that calomel, salines and mineral acids are useful and may prevent an attack. I use the cold coil over abdomen in private cases when the bath cannot be given.

Doctor Robbins: It is important to make diagnosis first. When **Welch** says that in Baltimore, at least, malaria is not present when typhoid is; when he can find the malaria germ in the blood and Eberth's bacillus in the evacuations, we ought no longer to speak of typho-malaria unless we find both germs present. We often call a case typho-malaria when we do not know what else to call it. Regarding the dietary treatment, it is well to have a few clear cut ideas about it. We will be successful if we have a few ideas and a few drugs, and stick to these alone. As for the *pros* and *cons* of the Woodbridge treatment much has been unfairly said on both sides. It is essentially an attempt at antiseptic and eliminative treatment of the bowel. Carbonate of guiacol ought to be useful, as it makes the stools less offensive, while calomel adds both an antiseptic and eleminative effect. Water freely used is one of the best eliminatives. The paper on dietetic treatment has shown specific outline, and indicates that a milk diet should be used chiefly, but it has some bad features as in a case in which a free use was made, there was a milk cast of the esophagus. Light foods should be given freely. Quinine, in my experience, as an antipyritic is of no value.

Doctor George Duffield: It is unnecessary to say that the papers we have listened to were interesting and instructive. I object to the use of opiates in any stage of typhoid fever. Their action is to check the action of the bowels. They lock up the secretions and so add fuel for the bacilli to live upon. Such treatment in the light of intestinal antisepsis is radically wrong. **Doctor Robbins** speaks of the good use of water taken by mouth. I always request that the medicines be washed down by several draughts of sterilized water, or if the bowels are not free, I prefer some laxative water such as Apenta or Rubinat, in small doses, so that at least four or five movements may be had in the twenty-four hours. I object to letting the patient go on without treatment as has been recommended by one member. Older authors claim the disease to be self-limited and that it would run its course and heal by crisis in three weeks. This idea of waiting until something dangerous arises before treating seems almost criminal. Where strict antisepsis can be practiced from the earliest symptoms, I believe that in such cases the disease can be shortened to less than three weeks and so the forces of life can be used in the more rapid advances toward convalescence. **Doctor Woodbridge** claims that typhoid can be aborted. I do not say that it cannot, but his plan when begun early has the power of cutting short the disease in many cases. I do not propose to discuss the Woodbridge treatment; the medical journals have been full of it for the past few months. **Doctor Van Slyke** has spoken of rectal enemata in the treatment of typhoid. That suggestion is a good one. I have used (after the suggestion of **Doctor McCormick**) saline solutions, about the same temperature as the body. When hemorrhage has occurred it may be given ice cold, as its effect produces a prompt astringent action upon the mucous membrane of the bowels, and by its mechanical action it washes away the large blood clots and prevents them from acting as a new culture medium for the growth of the Eberth bacilli. If a large hemorrhage has occurred with collapse, the best plan is to transfuse a normal saline solution and administer an ice-water enema and place an ice bag over the right iliac fossa and give an hypodermic of ergotol, ten or fifteen minims. In this way the hemorrhage can be checked much quicker and without as much danger as when acetate of lead, opium and nitrate of silver are used, and these last drugs are usually too slow in their action. I only want to call the attention of the members to the use of guiacol both externally and internally as a means of reducing temperature and producing, quite rapidly, the aseptic condition of the bowels. Having discarded both plunge and sponge baths for the reduction of temperature, I only use the latter once or twice a day to make the patient more comfortable, not to reduce fever. Whenever the temperature reaches 103° or more I paint the chest, or better, the iliac fossa over the ileo-cecal valve, with from ten to thirty minims of Merck's pure guaiacol, rubbing the same in with the fingers for a few moments and covering the part with a layer of cotton wadding and oiled silk. Soon reaction takes place and the patient breaks out into free prespiration, and the temperature falls rapidly. During the sweating period the heart's action remains strong and full, showing that there is little or no depression upon the cardiac centres. When too much has been used and the temperature reduces eight or ten degrees in two or three hours, a chill is apt to follow, but reaction soon takes place. It is best to begin with a smaller dose, say ten minims and increase, rather than begin with a large amount and decrease. It is better to reduce the high fever down to 99° or 100° than to drop the temperature below normal. When guaiacol has been thus used, it is well to take the temperature every half hour thereafter for three or four hours after it is used. Now as to the internal administration of guaiacol. A capsule containing two minims may be given every two hours, unless it is too irritant to the gastric mucous membrane, when the carbonate in grains three to five may be given every three hours. Guaiacol reaches the ileo-cecal the same as it entered the body and produces its antiseptic action where it is most needed. The stools have a decided odor of the drug. The kidneys never show any irritation from its use. The very best stimulant is the nitrate of strychnine, one-fortieth grain every three or four hours. If the Woodbridge treatment is followed closely, or if this treatment I have outlined includes small doses of calomel, recovery is hastened. I give as a mouth wash, a saturated solution of chlorate of potash with listerine. This keeps the mouth clean, lessens the danger of salivation, and keeps the gums firm. A strange phenomenon has been noticed that when guaiacol is applied to a patient with a normal temperature, there is no reduction of temperature and no sweating. From the few cases in which I have used the drug externally, I an confident that it exercises a favorable condition upon the fever, and has a tendency to shorten the attack. One word about feeding. In the past year I have allowed my patients to have strained broths and soups besides warm rich milk. (I do not like to give cold milk.) I always watch the stools for undigested food. The curds of milk are usually recognized first. If milk is not easily borne, peptonizing it for a few days rests the gastric glands, so that before the patient knows it he can take milk again and readily assimilate it.

Doctor W. J. Wilson: I endorse the remarks of **Doctor Duffield** in regard to the use of guaiacol. I do not restrict patients to an exclusive milk diet, but allow them any reasonable form of nourishment.

Doctor Warren: I would suggest antiseptic washes for the mouth.

Doctor Chittick: I do not think sulpho-carbolate of zinc of any value, at least I have not found it so in my experience.

Doctor Inglis: Milk is a good diet in typhoid, yet it may be productive of harm. I protest against the dictum that milk is the only diet in typhoid fever.

CLINICS.

A REPORT OF SURGICAL AND GYNECOLOGICAL CASES OPERATED UPON AT GRACE HOSPITAL OCTOBER 12 TO 16, 1897.

By WILLIAM F. METCALF, M. D., Detroit, Michigan.

Case I.—Miss L. She had one tube and ovary removed in 1892. The other tube was so embedded in inflammatory exudate that it was not disturbed. The symptoms which existed previously continued: pain in head, pain and soreness in and around the uterus, constant pain in the bladder with frequent urination, ichorous discharge from the endometrium, and obstinate constipation. In 1893 I removed the uterus leaving an embedded tube in place. She regained perfect health and remained well until January, 1895, when a hernia appeared where the incision had been made in 1892. Soon after the hernia appeared she became a nymphomaniac. A few months later the rupture was repaired by the surgeon who had performed the first operation and she wrote to me in February, 1896, saying that her erotomania had disappeared and that she was perfectly well. Two or three months later the hernia reappeared and nymphomania returned. It does not trouble her when she wears a bandage. She says she is perfectly well in every other respect, except for an occasional bleeding from the rectum. She has as much love for children as she ever had, and is no less effeminate in any respect.

Operation for the ventral hernia on Tuesday, October 12. The silver wire sutures were removed from the margin of the right rectus muscle. The wound was closed by sutures of catgut and healed by first intention. Highest temperature 100.4° on second day. Highest pulse 90. No morphine, no nausea. Patient went home October 25 feeling well in every respect.

November 15: She reported that there was yet no evidence of recurrence of the hernia or of the nymphomania.

December 15: She reported pain and soreness in region of scar. Examination disclosed a bulging of the whole scar, size of which is about 3x4 inches.

December 17: I made an incision along the outer border of scar and passing my fingers beneath, found that the union from the last operation was perfect but that the recti muscles were widely separated and the tissue too thin to afford the proper support. I made incision over the outer border of each rectus muscle and made a support by passing fine silver wire back and forth over the surface of the recti muscles, making the tendon of the transversalis at the outer border of each rectus, the point of attachment. I then closed the incisions by buried catgut. The wounds healed by first intention. I examined her on January 15. The subcutaneous wire apparently furnishes perfect support. There is yet some soreness where the incisions were made, and the nymphomania still exists.

Case II.—Mr. H. F., aged about thirty years. First attacked three years ago with severe cramping pain in the right side, greatest at McBurney's point, accompanied by high fever which kept him confined in bed two weeks. The second attack occurred two years ago, the symptoms being identical with those of the first attack. He was confined to bed two and one-half weeks. Recovery from soreness was slow. The third attack came on last February, the former symptoms being repeated with the addition of vomiting. He was in bed five days. The pain was more severe and the soreness lasted one month. At present he feels soreness at times. Temperature when admitted 99.4°, pulse, 80.

Operation Tuesday, October 12. The appendix was removed and appeared normal, except its mucous membrane. One-sixth of a grain of morphine was given six times. Nausea supervened. When he left the hospital on October 26, his appetite was good and bowels regular. Two weeks later he called saying he felt perfectly well.

January 15: He has had no return of soreness, and is in perfect health.

Case III.—Miss B., aged ninteen years. She has always suffered from dysmenorrhea, and during the past year from menorrhagia. Her last period was of three weeks duration. She is constipated and has much pain during defecation. There is a history of miscarriage a year ago, and of gonorrhea last spring. In July and August she was confined to bed much of the time with fever and with severe pain in pelvic region. The uterus was then fixed in inflammatory exudate. By the use of tampons saturated with ten per cent. ichthyol in glycerine, and hot douches, and confinement to bed she improved. The uterus became movable but she still suffers greatly with pain in the right ovarian region. When admitted to the hospital her temperature was 99.4° and pulse 108.

Vaginal hysterectomy by the dissection method, Tuesday, October 12, was found to be very difficult owing to the small size of the passage and the strong fibrous adhesions. The ovaries were enlarged and cystic. The uterus could not be turned owing to the strength of the adhesions and therefore the whole dissection had to be done from the cervix toward the fundus. The operation was at 12 o'clock and the house surgeon at 3:50, thinking the oozing excessive, douched the cavity with hot saline solution and repacked. This was removed thirty-six hours later, and two douches of 1-8000 bichloride solution given each day. The highest temperature, 101°, presented at 9 P. M. on the day of operation. Highest pulse rate was 125. She had one-eighth grain of morphine with atropia on Wednesday, followed by nausea and vomiting. When she was taken home, ten days after the operation, her appetite was good, bowels regular and tenderness almost entirely gone. A week later she came to my office saying that she was entirely well and she appeared to be.

January 5: She reported that her good health continued.

Case IV.—MRS. G., aged thirty-seven years. Her menses appeared at nineteen. She has obstructive dysmenorrhea. Her health was good during girlhood. Her mother was healthy; father died of rheumatism at forty-eight. Patient was married at twenty-one. First and only child was born at twenty-five, delivery being instrumental, and she was confined to bed six weeks. She has never been well since, but has had much pain in pelvis and back and down thighs, and in top and back of head. She had one miscarriage before and one after the child was born. The last miscarrige occurred nine years ago, and she has not been pregnant since. Two and one-half years ago she was taken with pain in the pelvis, accompanied by chills and fever, at which time something broke and discharged through the uterus. She was in bed five weeks and was unable to walk about for two months. Her doctor thought it was gonorrheal. A year later she had another attack, with another discharge of pus. She now has much pain and thinks another attack is coming on.

Operation Wednesday, October 13 for removal of large pus tubes with extensive adhesions, by laparotomy; curettement of uterus and trachelorrhaphy; and removal of ulcerated patches from rectum. Her temperature was 101.1° at the time of operation. The evening after operation the temperature was 100°, pulse, 72. Prolonged nausea and vomiting followed administration of anesthetic. By mistake the plug was left in the rectum all the afternoon, causing her considerable pain which subsided soon after the plug was removed. On Saturday she suffered much from pain in the abdomen. There was a fair result from the second turpentine enema. Vomiting persistent. On Sunday the abdominal wound was found open, but there was no pus present. Chloroform was given and examination revealed the omentum firmly adherent to the upper part of the wound. This was separated and replaced and the wound closed with silkworm gut. Nausea and vomiting continued for twenty-four hours longer. The healing of the wound was now rapid and perfect. Her highest temperature, 100.2°, lasted only a few hours. Highest pulse rate 86. She had, in all, one-half grain of morphine. The cervix uteri, in which buried catgut suture was used, healed perfectly by first intention. When she was taken home October 25 her appetite was good. The inguinal glands were swollen at the time of operation. This swelling soon disappeared. After her return home a small ulcer appeared upon the left labium majus and the inguinal glands again became swollen. Iodides and mercury were prescribed. She came to my office November 19, when examination revealed nothing wrong except a small ulceration upon the right side of the rectum. She had been using an antiseptic wash for the rectum and a soothing ointment with the pile pipe. Her general health was much improved. She came again about January 3. She said that her general health was much improved; that she had been working in a shop for several weeks; that her rectum was not sore (I did not examine it), and that she had no complaints to make. She is yet taking the syrup of hydriodic acid.

Case V.—MISS W., aged twenty-eight years. Her menses appeared at eighteen. Saint Vitus' dance began when she was a child. She has always been sickly. Her menses are irregular—from two weeks to four months. She has headache nearly all the time, generally on the top. She has been troubled much with insomnia for three or four years. Her appetite is poor, feet cold, and hands numb. She is very forgetful and has much pain in the pelvis, especially in the left ovarian region. She gives a history of masturbation.

Operation Wednesday, October 13: Freeing of hood of the clitoris; amputation of labia minora, which were much hypertrophied; dilatation of cervical canal; curettement of uterus; and removal of internal hemorrhoids. Her highest temperature was 100.4°, and highest pulse 102. No anodyne was needed. No nausea. The muscular tremor which was marked before operation was entirely absent immediately after operation and continued so until she left the hospital. Bovinine, liquid peptonoids, and tonics were given.

November 24: All the old symptoms have disappeared except slight tremor when she is excited, and at times neuralgic pains in the course of the pudic nerve.

January 15: There is slight tremor at times but her general health is good, considering the fact that she persists in the habit of masturbation.

Case VI.—Mr. E. M. P., aged twenty-nine years. A case of epispadias. Patient was well until eighteen years ago. He masturbated at twelve years of age, had sexual intercourse at fourteen, and experienced one attack of gonorrhea at seventeen and another at twenty. He has a jerking sensation in pelvis when urinating and sometimes when walking. He was operated upon eleven years ago in Cook County Hospital for varicocele by subcutaneous ligation of the veins. At the same time the foreskin was slit open. He now has almost constant pain at the site of the varicocele, and such a dragging upon the frenum as to prevent sexual intercourse. His feet are cold all the time, and he has a numb pain in the legs below knees always when walking. He is tired, weak and exceedingly nervous all the time. He has wet dreams every night. During the months of April and May the pain in his back and testicle was very great and he vomited nearly everything he ate.

Operation Wednesday, October 13: Passing of sounds; circumcision; and separation of the structures leading to the testicle. The highest temperature was 100.2°, pulse 88. No pain, no morphine, no nausea. He was feeling well when he left the hospital October 26.

November 23: He called at my office and said he was well except for the pain in his testicle which was now in the lower part instead of in the cord. He had only three emissions in two weeks. Sexual intercourse could now be had without inconvenience, except that he discharged too quickly. His general health was much improved.

January 3: He is gaining in weight but still has pain in the testicle at times and an occasional nocturnal emission.

Case VII.—Mr. M., aged thirty-five. Patient received injury to testicle in August, 1896. A year later the testicle was removed and was said to be tubercular by the doctor who examined it. The family history is negative, except that two of his father's sisters died of tuberculosis. When admitted to the hospital on Tuesday, October 12 his temperature was 100°, and pulse 100. The following afternoon I made exploratory incision and found the growth involving the mesentery of the appendix, cecum, ascending colon and ileum. It also extended down into the pelvis behind the rectum. The bulk of the tumor lay beneath the cecum. I removed the centre of it for microscopical examination. From the history of the case, the temperature, the apparently extensive involvement of the glands in the pelvis, and of the mesentery, and from the small amount of hemorrhage following removal of part of the growth I thought it might be tubercular, but the following report shows it was not.

"This disease is sarcoma and the specimen is taken from a place in the tumor where necrosis is beginning, and from the condition of the arteries but little hemorrhage may be expected." (Signed) E. H. Troy, M. D.

Considerable nausea followed the anesthetic. Morphine or codeia was given each night because of pain. His highest temperature was 100.4°, and highest pulse rate 120. His temperature and pulse became normal on October 22, and remained so until he left the hospital on November 6. The abdominal incision healed but the malignant infiltration was extending.

November 16: A letter states that "MR. M. has a good appetite, has gained in strength and rests better at night. The wound is not quite healed yet." His temporary improvement is probably due to the removal of the necrotic part of the tumor.

January 14: A second letter states that "MR. M. is with us yet and is somewhat improved. His stomach and bowels are much better and he does not suffer much more pain than when he left the hospital. His appetite is good. The bunch has enlarged some. He walks out to visit the neighbors when the weather is fine."

Case VIII.—MISS D., aged twenty-nine years. Patient had all the diseases of childhood. She had dropsy following scarlet fever in her seventh year. Her menses began at fourteen and continued regularly. Profuse leucorrhea made its advent later. She suffered much from indigestion and constipation until a year ago. Since, pain has increased in her right side, and her digestion has been better. Any exercise weakens her greatly and relief comes only by lying upon right side. When pain is severe, she says a thin scum comes over her eyes, more particularly her right. Her appetite is good. A smothering sensation comes on occasionally. Always sleeps upon the right side. Her hands and feet are always cold. Examination showed right kidney much larger than the left and freely movable.

Operation Wednesday, October 13: Fixation of kidney; dilatation of cervical canal; and curettement. Highest temperature 101.8°, highest pulse rate 96. The catgut sutures gave way and the wound partly separated but no pus presented. The edges were drawn together again with silkworm gut under local anesthesia by cocaine, and healed readily. When she left the hospital November 9 she had no complaints to make.

November 21: She said that she was well, that there was no soreness in her side, and that the circulation in her extremities was very much improved.

January 18: Kidney firm. She is suffering from an acute attack of pleurisy.

Case IX.—MRS. C., aged thirty-nine. Patient's menses began at fifteen. She was married at twenty-two, and has three children. She experienced a miscarriage eight years ago. She was well until her last child was born, eleven years ago. She complains of a dragging down sensation in the pelvis; aching across sacrum, and coldness in lower part of back, together with cold feet and hands always. There is indigestion, and she is somewhat constipated. Periods regular. Menorrhagia always and much pain. Her last period continued over a week. Great pain in the pelvis when riding in street car, and during sexual intercourse. She wants the reproductive function reestablished. Her nutrition is very low.

Operation Thursday, October 14: Curettement; trachelorrhaphy; and removal of internal hemorrhoids. No morphine was given. Nausea and vomiting followed anesthetic. She slept well after the first night. Highest temperature 99.4°, highest pulse rate 96. Buried catgut suture was used in cervix. Healing perfect. When she left the hospital, October 25, her appetite was good and bowels regular; but there was still some neuralgic pain in the ovarian regions.

November 27: I saw her and she said she had just gotten over her menses, which were profuse and lasted seven days. It had been seven weeks, however, since the preceding period. She had considerable pain in the back and was troubled with insomnia. Her digestion is better and nutrition improving.

January 18: I called and found her painting the floor. She said she had little if anything to complain of, that she seldom had backache, that she sleeps better, and that her general health is improving. She has gained considerable flesh.

Case X.—DOCTOR M., aged fifty-eight years. Patient had been troubled with obstinate constipation and dyspepsia thirty-eight years, also with frequency of urination, especially at night. He has occasional attacks of nausea and vomiting and has had much annoyance from hemorrhoids for twenty years.

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November 2[illegible]: A letter states that "Mr. M. has a good appetite, has [illegible] in strength and [illegible] better at night. The wound is not quite [illegible] yet." His temporary improvement is probably due to the removal of the [illegible] part of the tumor.

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November 21: She said that she was well, that there was no soreness in her [illegible] and that the circulation in her extremities was very much improved.

January 18: Kidney firm. She is suffering from an acute attack of pleurisy.

Case IX.—Mrs. C., aged thirty-nine. Patient's menses began at fifteen. She was married at twenty-two, and has three children. She experienced a [illegible] eight years ago. She was well until her last child was born, eleven years. She complains of a dragging down sensation in the pelvis; aching [illegible] sacrum, and coldness in lower part of back, together with cold feet and [illegible]. There is indigestion, and she is somewhat constipated. Periods [illegible] Menorrhagia always and much pain. Her last period continued over [illegible] Great pain in the pelvis when riding in street car, and during sexual [illegible]. She wants the reproductive function reestablished. Her nutrition [illegible] low.

[illegible] Thursday, October 14: Curettement; trachelorrhaphy; and [illegible] internal hemorrhoids. No morphine was given. Nausea and [illegible] followed anesthetic. She slept well after the first night. Highest [illegible] 99.4°, highest pulse rate 96. Buried catgut suture was used in [illegible] healing perfect. When she left the hospital, October 25, her appetite [illegible] bowels regular; but there was still some neuralgic pain in the [illegible].

[illegible]: I saw her and she said she had just gotten over her menses, [illegible] and lasted seven days. It had been seven weeks, however, [illegible] period. She had considerable pain in the back and was [illegible] insomnia. Her digestion is better and nutrition improving.

[illegible] I called and found her painting the floor. She said she had [illegible] to complain of, that she seldom had backache, that she sleeps [illegible] general health is improving. She has gained considerable

[illegible] M., aged fifty-eight years. Patient had been troubled with [illegible] and dyspepsia thirty-eight years, also with frequency of [illegible] at night. He has occasional attacks of nausea and vomit- [illegible] annoyance from hemorrhoids for twenty years.

Operation Thursday, October 14: Dilatation of urethra; circumcision; and removal of internal hemorrhoids. No morphine was given. He suffered from nausea and vomiting until the 22d; also from considerable backache. About the 20th some small mucous membrane tags were clipped from the margin of the anus by use of cocaine. When he left the hospital on the 28th, his appetite was good, his bowels acted more freely, his color was much improved, and he was resting well at night.

November 27: In a letter written by Doctor M. in answer to my inquiry as to his condition, he says substantially as follows: "The journey home to Wallaceburg fatigued me considerably. I spent the greater part of the next two weeks in bed. My appetite has been good and I have gained steadily in strength. I have made more progress during the last week than during the preceding three weeks. I have yet a tendency to constipation, but keep the bowels regular by the aid of cascara. I do not have to urinate more than once during the night. I have been eating everything that comes in my way of late and find that it agrees with my stomach."

January 14: A letter says that his improvement has been steady and uninterrupted, and that he weighs more than he has in ten years. He still uses cascara as a laxative but his bowels move freely every day without pain.

Case XI.—Mrs. W., aged sixty-three years. Her uterus became completely prolapsed after her confinement in 1862. Under chloroform Thursday, October 14, I found complete atrophy of the uterus. A sound passed through the cervical canal entered the abdominal cavity. The tumor which hung about eight inches below the vulva was formed entirely by the bladder, that organ being much enlarged. The mucous membrane covering the tumor was dissected away, the bladder pushed up into place and the edges of the mucous membrane approximated with catgut. The perineal body was then restored. The wounds healed by first intention and she left the hospital October 29 with the parts in normal position. No morphine was needed and there was no nausea. Her highest temperature was 99.2° and highest pulse rate 124.

January 12: The result remains perfect.

Case XII.—Mr. B., aged sixty-three years. Patient was always well until two years ago. An uncomfortable feeling then began to annoy him whenever the stomach was empty. Taking of food would relieve this. The trouble gradually increased, a dislike for solid food arose, and for the last three months he has lived upon milk and bovinine. Upon this diet he gained eight pounds. Palpation of abdomen discloses nothing abnormal. The following is the result of an examination of the stomach contents after a test breakfast:

"Reaction neutral; hydrochloric acid absent; lactic, butyric and acetic acids absent; pepsinogen absent; rennet absent; blood absent; pus and mucus present. There seems to be a caseous mass near the cardia."

(Signed) Charles D. Aaron, M. D.

The only abnormalities which could be discovered without entering the abdomen (he would not permit exploratory incision) were internal hemorrhoids and a small cicatrix upon the right side of the rectum, the result of a suppurating hemorrhoid and an unusually tight sphincter. These were corrected by cutting away the hemorrhoids and cicatrix and throughly stretching the sphincter. The highest temperature was 100°, and the highest pulse rate 100. (Before the operation his temperature was 99°.) He slept well without anodyne the first night. There was no nausea. The only pain he had while in the hospital was rheumatism in the right shoulder. His appetite gradually improved until in a week he was eating and enjoying all kinds of food. A test breakfast was given on the 23d and the contents examined by Doctor Aaron with the same result. Pus also present in stool of same date. He left the hospital on October 25 with good appetite and bowels free and regular. He was apparently well except for pain in the shoulder.

November 28: He can eat and apparently digest all kinds of food but prefers bovinine and milk. His legs and left arm are swollen. He cannot lie down because of intercostal pain.

December 9: The swelling has disappeared from arm and legs. Two cystic tumors as large as a small orange had formed nearly in the left axillary line over eighth and ninth ribs. They contained a straw-colored fluid. A hard mass could now be easily detected in the cardiac end of the stomach. He has never vomited but has slight dysphagia. There is some pain in the stomach but much more in the left thorax and shoulder.

December 30: Autopsy showed posterior wall of stomach at cardia and lower part of esophagus involved in cancerous growth, also cancerous nodules in liver; and complete destruction by necrosis of about three inches of eighth and ninth ribs at sight of swelling above mentioned. I attribute his gain in weight to the constant use of bovinine.

Case XIII.—Miss M. S., seamstress, aged twenty-four years. Her mother died of consumption at twenty-seven. Menstruation began at thirteen, but the periods were irregular, varying from three to six weeks. She has always suffered greatly from dysmenorrhea and constipation. She suffers much from pain in back, and back of head. She gets excited upon the least provocation, when a peculiar feeling begins in the lower part of the spine and passes up over the head, causing her to become faint. She has much aching in thighs. She was treated for a year by some doctor who promised to cure her by injecting oil into nose and throat, and one or two quarts of warm water into the rectum each day. The latter became so sore that she avoided going to stool. When she entered the hospital her temperature was 100°, pulse 78.

Operation Friday, October 15: Dilatation of cervical canal; anterior vaginal fixation of uterus; and removal of internal hemorrhoids. No anodyne was required, but there was much nausea. Her highest temperature was 99°, pulse 92. She went home October 26 feeling well in every respect. A week later I removed the stitches of silkworm gut which held the uterus forward. She then reported herself well except for soreness in right renal region. (Both kidneys are freely movable). I have not been able to get later report upon this case.

Case XIV.—Miss C., aged twenty-six years, a dressmaker. Her menses began at fifteen. She was healthy as a child, but has since had to take much physic. She has considerable pain in the back throughout the whole length of the spine, at first during menstrual periods but now continuous. At eighteen she began to have attacks of rheumatism in ankles and feet. These were accompanied by chills and fever. The attack last fall was very severe and she has not been well since. She has had, for nine weeks, continuous pain in the top and back of the head. She menstruates every three or four weeks and is troubled with fearful dreams. About the middle of last August she fell while walking in her sleep and injured her shoulder. She has much pain down the outside of the left thigh.

On Friday, October 15, I dilated the cervical canal; curetted the uterus; and removed some small internal hemorrhoids. She required no morphine and was not nauseated. Her highest temperature was 100° and pulse 112. This was two weeks after the operation. When she left the hospital November 5 her appetite was good and bowels regular. She was sleeping well and was entirely free from pain, except for rheumatism of the muscles of the left side of the thorax. I saw her again on November 15, when she said she was improving every day. Colchicum salicylate was given for the rheumatism.

January 5: She has become fleshy and is still gaining in weight. Her general health is good. She sleeps well but still has pain in the left side of the thorax.

Case XV.—Mrs. S., aged twenty-four years. Patient has one child six months old. Her menses began at eleven. There are symptoms of obstructive dysmenorrhea, with much pain in the ovarian regions. Three months after conception her general health began to improve. Two months ago she began to suffer from pressure on the top of the head, constant aching in the back and in the pelvis. She does not sleep well. She has suffered from alternate attacks of diarrhea and constipation for years. This last attack of diarrhea began two weeks ago. She flowed profusely for seven days in September.

Operation Friday, October 12: By laparotomy, a small ovarian cystic tumor was removed from left side by cutting close to tumor and controlling hemorrhage by approximating peritoneal edges over cut surface, encircling each bleeding point with the stitch. A section of degenerated tissue was removed from the right ovary. The uterus was fixed to the abdominal wall by buried sutures of catgut and one suture of silkworm gut which surrounded the fundus uteri and was secured upon the surface of the abdomen by shot and a lead plate. Healing occurred by first intention. The cervical canal was then dilated, the uterus curetted, the partially lacerated perineum restored and large internal hemorrhoids removed. One hypodermic of morphine, one-eighth grain, with atropia, was given the same evening. She was slightly nauseated the following day. Her highest temperature was 100°, and highest pulse 96. She nursed her baby after the second day. She left the hospital October 30 feeling perfectly well.

November 15: Improvement continues. She has no complaints to make.

January 22: She says she is well in every respect except for a slight backache, which she thinks indicates the approach of her menses. She is taking Gude's peptomangan.

Case XVI.—Mrs. J. W., aged forty-six years. Patient has one child twenty-three years old. She was married twenty-five years ago, and has not been well since. The husband was being treated at the time for some venereal trouble. She lived with this man eight years. Seven years later she was married again. Eight years ago she had general peritonitis and spent two months in bed. She has always been constipated. Rectal trouble was first observed four years ago. She had another attack of peritonitis last July. An examination disclosed pyosalpinx on left side, enlarged tender coccyx and stricture of the rectum with much ulceration.

August 2: I removed cicatrix from rectum with two and one-half inches of ulcerated mucous membrane, brought down the membrane which was considerably infiltrated, from above the ulceration, and stitched it to the skin. Two days later abscess in left broad ligament emptied into rectum. Nothwithstanding this and the syphilitic infiltration, the membrane united to the skin to the extent of about one-fourth of the circumference. Ten days later I removed the coccyx in the center of which was an abscess. Antisyphilitic remedies which had been given before she entered the hospital were now pushed to the limit of toleration. This wound healed by granulation. Two or three weeks subsequently she went home. Thursday, October 14, she returned in much better physical condition but with pus from pelvic abscess still discharging through the rectum. Friday, October 15, I performed vaginal hysterectomy by the dissection method, with the hope of affording free escape for the pus through the vagina, thinking that then the opening in the rectum might heal. Many dense fibrous adhesions were encountered rendering the operation difficult. The infiltration around the rectum prevented my passing my hand in to find the opening and the patient's tissues were not in good condition for abdominal section. Her pulse was 80 at the close of operation. Her highest temperature was 99.8° and highest pulse rate 96. Morphine was used but there was no nausea. The pus now discharged through both vagina and rectum. She left the hospital October 30.

November 11: Doctor Colby, of Jackson, reports pus still discharging per rectum but none coming through the vagina; and that she is improving in strength and food capacity.

I examined her the latter part of December and found the opening in the vagina completely closed, the rectum of good calibre, and less infiltration of perirectal tissues, but considerable pus coming down from the sigmoid flexure of the colon. Marked symptoms of irritation of the lumbar cord were present.

Case XVII.—Mrs. La P., aged forty-two years. Patient was married at nineteen. She was healthy as a girl and her parents are healthy. She has nine children, the oldest being twenty-two years, youngest three, and was always well until the birth of the last child which was effected by instrumental delivery. She was confined to bed six weeks. She has much backache and headache. The periods are scanty, lasting only two days. She has been troubled with constipation since birth of the last child, and suffers from incontinence of urine, insomnia and palpitation of the heart. Her appetite is poor, she is very nervous and forgetful and always tired.

Operation Friday, October 15: Amputation of the cervix uteri. The laceration had extended into the body of the uterus. In removing the cicatrix I opened into the abdominal cavity. Sutures of silkworm gut were employed. She took chloroform badly. When she was taken from the operating room her pulse was 86 but symptoms of shock soon appeared, and her pulse became imperceptible. A hypodermic of morphine, one-fourth grain, with atropia, $\frac{1}{150}$ grain, was given, also strychnine. Hot normal saline solution was given per rectum and injected into breasts. Inhalations of oxygen were given. Nutritive enemata of brandy and liquid beef peptonoids were given later. At 9 P. M. her temperature was 99.6°, pulse 116. When she left the hospital November 3 her appetite was good, she was sleeping better and gradually improving. I saw her November 23 when her gain in flesh was apparent, and she said she was much better than before the operation, but that she did not sleep well, and she required three cascara tablets each day to produce a movement of the bowels. Her condition at the time of operation would not permit the indicated operation upon the rectum.

January 20: Her general health seemed to be greatly improved. She said that she had no difficulty in urinating, slept better, and was not so nervous.

Case XVIII.—Miss F., aged thirty years. Patient began to menstruate at ten and has never had good health since, having always been irregular, the intervals of periods ranging from two to twelve weeks. She has always suffered greatly from dysmenorrhea. She flowed eleven weeks at one time, three years ago. At present she menstruates every five or six weeks; duration eight days. There is great pain in the lower abdomen and back, accompanied by vomiting. She spends the first four days in bed. She is troubled with insomnia, but is never constipated. Her appetite is fair except at time of period. Her feet and hands are always cold. She has lost fifteen pounds this summer. She has much nauseating pain in the right renal region and in the ovarian region and numbness in the right leg. This trouble has existed for about six years. She thinks the doctor has visited her or she has called to see her doctor 365 times a year for the past four years. During the past six months catalepsy has developed, attacking her at each menstrual epoch. This condition came on four times during the last menses. There is very severe pain in the epigastrium at these times. She has had six attacks of severe cramping pain in the right side. After these paroxysms subsided she would pass large quantities of urine.

On Saturday, October 16, I fixed the kidney through an incision parallel to the outer border of the quadratus lumborum muscle. The wound was closed with catgut, and healed by first intention. Her highest temperature was 100°, and highest pulse rate 100. She left the hospital November 6 in good condition. One dose of morphine with atropia was used. She suffered much from nausea.

January 23: The kidney remains firmly fixed in place, and she has had no attacks of pain in the renal region. Pain in the ovarian regions, insomnia and nervousness have continued. There has been no improvement in her general health.

Case XIX.—Mrs. C., aged forty-five years. She has had aching in the side of the head almost constantly for twenty years. This pain is much worse at time of menses, vomiting being present. Her last period occurred one year

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of the University of Michigan and an M. D. of the Detroit College of Medicine, and is engaged in the official and professorial capacities of registrar and demonstrator of operative surgery in the latter institution. The doctor is a physician of acute perception and intellectual proclivities, and enters the domain of medical journalism with an ambition to elevate the profession and an energy to sustain this noble aspiration.

A formal declaration regarding the future conduct of The Physician and Surgeon is not considered necessary. Indeed the journal has so long been ethically identified with the progress of medicine that to interpose a platform of promises at this juncture would be superfluous. Let it suffice to say that the promotion of professional interests and the advancement of medical science will be continued from the standpoint of a free medical press represented by a strictly professional journal, the independence of which is beyond subservience to clique, institutional or trade influence. JOHN WILLIAM KEATING.

ANNOTATIONS.

INFANT FEEDING.

PREVENTIVE medicine has actively entered a new field in reference to infant feeding. As recently remarked by DOCTOR ROTCH, "the first step in the scientific feeding of infants * * * was taken by DOCTOR FRANKLAND in 1854." The subject has now become prominent in medical literature and has even aroused in a material way the interest of a few nonprofessional citizens in some of the larger cities of this country. With comparatively little trouble the constitution of mother's milk can be accurately determined in any given case and satisfactorily duplicated according to the principles of percentage feeding. While the modified milk laboratory is a desirable adjunct in the prosecution of this idea, yet it is not essential to good results. The matter is of such considerable importance in cases where some substitute for breast milk must be used that the physician who would do his whole duty will not resign his little patients to the care of ignorant and untaught nurses and the designs of mercenary dealers in artificial foods.

SURGICAL CURIOSITIES.

THE radical measures proposed for the relief of the various disorders of the stomach have long since exceeded the conviction and courage of the profession to generally adopt them. In spite of this fact we have had exhibited to us a new *dernier ressort*, in the nature of the complete removal of the stomach. MERREM, CZERNY, BILLROTH and LANGENBUCH did the pioneer work in this special operation, but the distinction of successfully performing the first true gastrectomy belongs to DOCTOR CARL SCHLATTER, of Switzerland. Not to be outdone the redoubtable Yankee, this time in the person of DOCTOR A. C. BERNAYS, of Saint Louis, has repeated the experiment. Notwithstanding the apparent successful results in these two cases, owing to the formidable character of the procedure it can hardly be expected to be frequently adopted even if applicable cases were presented. These two cases are unique, and in their clinical demonstration of laboratory discoveries will, like Alexis Saint Martin, interest the physiologist in no small degree. Doctor H. O. Walker has recently done some experimental work, which he has embodied in a paper entitled "Gastrectomy," to be read January 31 before the Detroit Medical and Library Association, and published later in The Physician and Surgeon.

CONTEMPORARY.

COOPERATION IN THE MEDICAL PROFESSION.

[THE AMERICAN GYNECOLOGICAL AND OBSTETRICAL JOURNAL.]

It seems strange in these days and in this country, when combination is universally the aim of every division of labor, when it represents a Winged Victory to some and a Juggernaut to others but a god to all—in these days of trusts, monopolies, trade unions and political "machines"—it seems strange, we say, that in the medical profession alone, among associations of men, a spirit of disintegration rules and practical cooperation does not exist. It *seems* strange indeed and yet it is, as we should suspect, but the emancipated reaction against a monopoly—a medical "trust"—which lay heavily upon the profession less than a generation ago. Every man over fifty can remember when in all our cities a tiny clique of men controlled the entire practice and the fate of every young medical aspirant and that of every stranger lay absolutely in their hands. These arbiters were not necessarily very clever nor very learned but they understood the art of combination and every outsider had to fight hard and continuously for their favor before he received recognition or patients. They are all long since dead and most of them are now but a memory to their former students, but they did one great service to the profession which was that they made it respected and honored and gave to it, at that time and for many years afterward, a social recognition and prominence which it will not probably attain again. For, as the members of this oligarchy died off and the profession increased with the growth of our cities and from immigration a reaction set in against the rule of the privileged few and, in the scramble for self-advancement, every man's hand was turned against his brother and respect even for ability was thrust aside when self-interest called for right of way. Suspicion took the place of confidence and envy that of admiration for deserved success. Physicians began to sneer at each other before their patients; they began to imitate the arts of small shop-keepers and to underbid and to undersell their brethren. Some even encouraged the well-to-do to accept medical charity in public institutions, shamefully regardless of the thousands of struggling doctors thus deprived of patients, merely that they might fill the maws of hospitals and clinics with pay patients and thus hold their own places against other professional brethren eager to supplant them on any terms. What, then, has become of the *esprit de corps* of which we even yet boast loudly and do not cultivate? Do we not know and daily feel to our shame that, with our loss of mutual self-respect and confidence, the public also have lost almost the semblance of respect for us collectively? We constantly are the butt of the press and illustrated journals and even the lawyer and the stockbroker sneer at our "pretence" and our "money grabbing propensity."

This is the effect, explicitly but not exaggeratedly expressed, of our reaction against the ideas and methods of the so-called "Old School," with its exactions and its tyranny. It was a natural and probably a necessary reaction but, like all radical rebellions, it has overleaped all bounds and has been carried by its own momentum toward self-destruction. We began by pulling down our tyrants; we have ended by falling to fight, each man his brother.

But our tyrants are dead, the "Old School" has passed away forever, the profession is emancipated, the oligarchy destroyed and the rule of the Great Mediocrity firmly established; whom, then, in our own ranks have we to fear? By our divisions and dissensions we expose ourselves the prey of every combination of men, yet we continue fighting, blindly and ruthlessly, both friend and foe. Why do we not end this senseless suicidal policy and combine for our protection and our common interest? Our utter weakness and want of cohesion are apparent to all men. Our press, our literature, the manufacture of our instruments and our drugs, even the making of laws which affect our interests vitally are practically in the hands of outsiders and are dominated by influences beyond our control. Do we need proof of the contempt and indifference in which we are held, as a profession, by our state authorities, whose flexible knees are quick enough to bend before all other representative bodies of our fellow citizens? Then let us call to mind the action last year of the Governor and Legislature of Missouri, who discriminated against the profession in favor of quacks, and the more recent example of our own Governor who, in spite of the fact that half the population of this city last year accepted medical charity and in the face of the protest of an overwhelming majority of New York physicians, vetoed an excellent, efficient and most just bill for our protection.

Surely the time is ripe to unite for our common good and to make our influence felt, as a body, in the community. Let us borrow from the experience and wisdom of laymen and *combine.* And how shall we begin? The answer is plain. Let us forthwith take an interest in all that which is working in our interests. Let us support with enthusiasm our medical press, giving the preference always and active encouragement to those journals *which are owned and controlled by medical men.* We know that the former *must* work only in our interests, that they are ably edited and that they look only to us for their support. There are now many of these journals scattered throughout the country, their medical editors and proprietors bravely struggling for the establishment of a true medical press—one that shall faithfully reflect medical opinion, shall labor unceasingly for the advancement, honor and influence of our profession, shall be the vigilant guardians of its interests and, in time of danger, shall speak for us in a loud and resonant voice whose authority and might shall be convincing in the preservation of our rights. This is the principle for which a number of devoted physicians are working. They have taken up medical journalism, as their own masters, that they may establish firmly in this country at least a medical press entirely under the control of medical men. They are fighting your battle, O Medical Reader, with enduring courage and many rebuffs, against the immense competition of journals actually in the pay of drug houses on one hand and of those supported by the lay publishers on the other, who use them as an advertising medium for their medical books.

Is it an *esprit de corps* or is it selfish indifference and an unthinking willingness to get their money's worth, from whatever source or at whatever cost, which actuate the majority of the profession still to encourage both of the above classes of trade journals in preference to those which ask this support by every argument which appeals to both the reason and the conscience of medical men? Merely as a matter of self-interest, then, if a less unselfish motive cannot affect us, let us encourage the development of our *own medical press.*

The same arguments apply with force to another branch of our medical literature. Why is the publication of medical books not under our control? Can any other class of men be so anxious for the dissemination of good medical literature as we ourselves? To whose interest is it to encourage literature and whose judgment is so competent to decide upon its worth to science as that of physicians themselves? Is it that we doubt our own ability, learning and judgment or do we fear that envy and small-mindedness would prejudice the decisions of medical judges, if the publication of our literature were entirely submitted to the latter's control? Publication houses should be established by medical men and the profession, by sending to these establishments their books for publication, should encourage this cooperative principle. Thus would be furnished the means for better work and more thorough advertising than are possessed by lay publishing houses, to whom we must now sue for permission to present our experience and our ideas to the medical public. It would not be necessary that the business details of publication should be carried out personally by medical men but the publication of medical books should be under the control of medical men instead of the reverse condition, which gives the control of the medical literature to lay publishers. When actual *scientific value* becomes the standard for the acceptance or rejection of a medical manuscript, instead of the standard which prevails among lay publishers, namely, the supposed *selling value*, we will have better books and cheaper books and the profits instead of enriching outsiders, who now live by us, will come back to medical men. Thus we will assist our own. It is not a question whether lay publishers have greater facilities for this work than physicians could have. These facilities are made by our support; if we transfer our support from lay publishing houses to our own publishing houses the facilities will go with it. There are a few such publishing houses in existence today, among which the Medical Gazette Publishing Company of Cleveland, Ohio, is conspicuous. This company is mainly composed of medical men and is absolutely controlled by them. This fact should assure it the patronage of the profession. We have no personal interest whatsoever in this company, and will never have, but we recognize it as a pioneer in the field of cooperation in medical literature, and we earnestly bespeak for it the encouragement of the profession, that it may succeed and do good work, for the sake of the principle we have enunciated. There should be not one successful publishing company in Ohio under medical control, but there should be one or more in every state in the union.

In regard to the manufacture of medical drugs and medical instruments, the necessity of cooperation is especially important. These manufacturers depend absolutely upon the profession for their existence and make their profits by our aid. It is but just, therefore, to demand that they appreciate this fact, and that they do not requite us by picking our pockets. When such firms advertise and sell their wares directly to the public, they enable the latter to buy without obtaining a doctor's prescription and thus rob us of our fees. Could they do this if we would unite and cooperate for our own protection, if we would order by prescription only from those firms who refuse to sell directly to the public?

We claim to be more intelligent and better educated than our fellow citizens. Let us prove at least our equality in the matter of these endowments by recognizing our common interests and by protecting them. We boast of our *esprit de corps*, then let us drop the methods of the Stock Exchange and recognize our mutual dependence and relationship in a common aim and for a common good. Let us *unite*. Let us *cooperate*.

MEDICAL NEWS.

A NAVAL HOSPITAL CORPS.

THE American navy is likely to soon have a hospital corps similar to that which obtains in the army. A movement has been inaugurated to establish hospitals at Portsmouth, New Hampshire; Chelsea, Massachusetts; Newport, Rhode Island; New York City; Philadelphia; Washington, District of Columbia; Norfolk, Virginia; Pensacola, Florida; Mare Island, California; and Yokohoma, Japan; and to organize a corps consisting of twenty-five pharmacists, sixty-five hospital stewards, thirty-five first-class hospital apprentices, and sixty hospital apprentices of the second class. Twenty of the pharmacists are to receive $75 a month, and five $100; the stewards will be paid $60; the salary of apprentices of the first grade will be $24, and that of the second $18.

THE HEALTH BOARD OF GREATER NEW YORK.

THE new board of health of Greater New York has been appointed by Mayor Van Wyck. Mr. Nathan Straus is president and commissioner for two years at a salary of $7.500 per annum; Doctor William T. Jenkins and Doctor John B. Cosby are commissioners for six and four years respectively, each at a salary of $6,000. Doctor Jenkins was formerly health officer of the port of New York; Mr. Straus achieved fame as a milk philanthropist through his instrumentality in causing sterilized milk to be placed on sale in the parks during summer. Doctor Cosby is a novice in medico-politics. Two assistant sanitary superintendents have been appointed for the burroughs of Brooklyn and Richmond, Doctor Robert A. Black for the former, and Doctor George C. Hubbard for the latter.

THE SAND FILTRATION OF MILK.

MILK is filtered through sand in several European cities. By this process all dirt is removed, the number of bacteria is reduced one-third, and the quantity of mucus and slimy matter is greatly lessened, while the loss of fat in new milk is only slight. "The filters consist of large cylindrical vessels divided by horizontal perforated diaphragms into five superposed compartments, of which the middle three are filled with fine clean sand sifted into three sizes, the coarsest being placed in the lowest, and the finest in the topmost of the three compartments. The milk enters the lowest compartment through a pipe under gravitation pressure, and after having traversed the layers of sand from below upward, is carried by an overflow to a cooler fed with ice water, whence it passes into a cistern from which it is drawn direct into the locked cans for distribution."

A MEDICAL MISSIONARY.

DOCTOR MARY BROWN, an American missionary stationed at Wei Hien, Shantung Province, North China, but who has been enjoying a vacation in Ann Arbor, Detroit, and elsewhere in the United States for the past year, returned to the celestial empire in December last to resume the practice and teaching of medicine. The doctor has had charge of a hospital for women during the past seven years, and reports great progress in medical and missionary work among the people entrusted to her care. Before leaving China she installed two of her Chinese women students in charge of the hospital, and a letter received by the doctor from one of them sometime ago stated that in the department of ophthalmology four operations for cataract had been performed by them. three of which were successful. While visiting in this country Doctor Brown delivered a series of lectures, under the auspices of the Presbyterian Missionary Society, on medico-religious advancement in China and devoted some time to clinical study.

AN INTERNATIONAL SANITARY EXPOSITION.

THE announcement has been made that an international sanitary exposition will convene in New York City on April 25, 1898, and continue in operation five weeks. Three acres of floor space will be covered by the exhibits, which will include all kinds of practical appliances and apparatus germane to sanitary science. The management have made provision for a course of popular daily lectures, discussions by members of societies, representatives of boards of health and others who may desire to participate in a great sanitary educational congress. The modern system of heating, ventilating, and plumbing houses will be in evidence, as well as comparative exhibits of present and primitive hospital arrangements, model tenement houses and schoolrooms, sewage systems, et cetera. Charles F. Wingate, sanitary engineer, is the supervising director, and the advisory board already comprises a list of over ninety specialists in the various lines of sanitary work.

PLACARDING FOR CONSUMPTION AND WHOOPING-COUGH.

THE Detroit Board of Health recently called a meeting of the physicians of the city to consider the propriety of a resolution adopted by the State Board of Health placing tuberculosis and whooping-cough in the same category with diphtheria, small-pox and scarlet fever, and requesting the placarding of houses in which persons live who are afflicted with these diseases. Only about forty physicians responded to the call, but the unanimity of this number in pronouncing against the placard innovation indicates the sentiment of the profession generally in Detroit. After thorough discussion of the question it was "Resolved, That it is the sentiment of this meeting that it is unnecessary and inadvisable to placard, isolate, or in any way make public the fact that any person has consumption, but that it would be advisable to educate the public through the physician by suitable literature from the board of health. Further, in assisting the physicians, it would be advisable for the health board of the city to institute bacteriological examination of sputum." The propriety of placarding for whooping-cough was then considered and disapproved in a motion that passed with a whoop after a three-minute discussion. The profession of Detroit is therefore sensibly on record as discountenancing the action of the State Board of Health regarding the placarding of houses in which tuberculosis and whooping-cough prevail.

A CHANGE OF BASE.

Several announcements of change of location have been received from physicians during the month. Doctor Delos L. Parker, of Detroit, is now located at 835 Jefferson avenue. Doctor Reuben Peterson, of Grand Rapids, has moved to Chicago—903 Columbus Memorial Building. Doctor R. Harvey Reed, of Columbus, Ohio, has resigned the editorship of *The Columbus Medical Journal* to become superintendent and surgeon in charge of the Wyoming General Hospital, located at Rock Springs, Wyoming, "which carries with it numerous perquisites and several other remunerative positions." Doctor G. Archie Stockwell has severed his connection with Park, Davis & Company, of Detroit, to accept a similar position—confidential medical adviser—with Henry K. Wampole & Company, of Philadelphia. The second paragraph of the circular imparting this information states that "Doctor Stockwell also severed his connection with *The Medical Age* in December last, and will probably soon issue a new high-class and *wholly independent* medical journal that will be entirely separate from his connection with the Philadelphia house."

THE PASSING OF PROMINENT PHYSICIANS.

Doctor Zakharin, of Moscow, Russia, physician to Czar Alexander III, died on the 5th instant. The doctor achieved considerable distinction in the profession, but became universally famous through a quarrel indulged in with Professor Leyden, of Berlin, regarding the diagnosis of the disease which caused the Czar's death in 1894. The populace and students of Moscow were greatly incensed at the time, and several hostile demonstrations resulted.

* * *

Professor Tarnier, the French obstetrician of forceps fame, recently died in Paris, at the age of seventy years. The doctor was born at Aiseray near Dijon, France, on April 29, 1828, and became a physician in 1857, having previously served in the capacity of intern. In 1860 he was appointed professor (Agrégé), the title of full Professor of Obstetrics not having been conferred upon him until twenty-seven years later, when he succeeded Doctor DePaul. He became affiliated with the Academy of Medicine in 1872, and six years later with the collaboration of Doctors Budin and Chantrueil published his large work on "Obstetrics." He claimed to be the pioneer of antiseptic methods in this specialty. Several obstetrical instruments were invented by the doctor, among them being a forceps and a basiotribe, familiar accompaniments to the armamentarium of obstetricians. Doctor Budin will probably succeed him to full professorship in the Paris Faculty. It was Doctor Tarnier's intention to have retired this year.

* * *

Mr. Ernest Hart, of London, England, the distinguished editor of *The British Medical Journal*, and popular sanitarian, died at his Brighton home on Friday, January 7, after a somewhat protracted illness. Doctor Hart was born in London of Jewish parents in June, 1835. His father and a brother were dentists. The doctor was educated at the City of London School and received his medical degree from Saint George's, afterward serving as surgical registrar of this school and dean of Saint Mary's, which latter position he resigned to enter private practice. In 1866 he abandoned practice to become editor of *The British Medical Journal*, and to his efforts the success of this publication is largely due. The public health work of Ernest Hart has left its impress in various fields and given him world-wide reputation as a sanitarian. The doctor was twice married. His first wife died in 1858, two years after marriage. In 1872 he was married to the woman who survives him, and in whose arms he died. His body was cremated.

Doctor Joseph O'Dywer, of New York City, died on the 7th instant, of thrombosis of the basilar artery, complicated by softening of the right lobe of the cerebellum and in the right half of the pons, together with localized meningitis. The doctor was born in Ohio in October, 1841. He passed his early life in Canada, and obtained his academic education at McGill University in Montreal. His medical studies were pursued in New York City, where he graduated from the College of Physicians and Surgeons in 1866. He successively served as intern in the City and Charity Hospitals, and later became examining physician at Bellevue Hospital. Doctor O'Dywer achieved universal fame through his idea of intubation of the larynx and the invention of tubes for perfecting the operation. Bouchut, of Paris, had advocated this procedure many years ago, but his method was speedily condemned by the leading French physicians. Doctor O'Dywer conceived his idea of intubation and perfected his tubes long before Bouchut's method came to his notice, and the tubes were vastly different and superior to those used by the Frenchman. Four sons survive the doctor, his wife having died nine years ago.

* * *

Doctor John Berrien Lindsley, Secretary of the State Roard of Health of Tennessee, recently died at his home in Nashville. The doctor was born in Princeton, New Jersey, October 24, 1822, and received his literary education at the University of Nashville, later pursuing medical studies in the University of Louisville and of Pennsylvania. After obtaining the degree of doctor of medicine he began the study of theology and was ordained to the ministry in 1846, which profession he zealously followed for some time. Later he became a pupil of science, and in 1847 made an extensive geological survey through the Eastern and Northern States. He afterward studied seven years in the medical schools of France and England. He was instrumental in founding the medical department of the University of Nashville, in which school he was the first dean of the faculty and professor of chemistry for twenty-three years, afterward becoming Chancellor of the University. In 1867 he organized the Montgomery Bell Academy. In 1870 he became one of the founders of the Tennessee College of Pharmacy, and in 1876 assumed the professorship of Materia Medica in this school. From 1876 to 1880 he was City Health Officer of Nashville, and in the latter year he was elected to the chair of State Preventive Medicine in the medical department of the University of Tennessee. In 1877 he was appointed a member of the unendowed State Board of Health, with which organization he was identified to the date of his demise. He was owner of *The Nashville Journal of Medicine and Surgery*, and enjoyed the reputation of being a vigorous and polished writer. A widow and five children survive him.

MINOR INTELLIGENCE.

One of our English contemporaries has directed attention to the fact that the usual pronunciation of the word *angina* (an-jai-na) is not in accordance with etymology and metrical usage, and cites "Smith's Small Latin-English Dictionary" (edition of 1886) as authority for pronouncing the word an-ge-na with an acutely abbreviated penult.

Finney, a New York druggist, has been fined one hundred and fifty dollars for violating the state medical law by practicing medicine. The New York County Medical Society has interested itself in seeing that the edict of the people is enforced, and as a result a number of fines ranging from one to five hundred dollars have been imposed upon pseudophysicians, druggists, and others who essay to practice the healing art without being properly authorized.

THE sanitary inspection of barber shops is contemplated in a bill which the Metropolitan Barbers' Association of the State and City of New York, have prepared for presentation to the legislature of that commonwealth. It provides for the appointment of a board of inspectors from the ranks of the tonsorial guild whose business shall be the sanitary inspection of all barber shops.

MORE than twenty-eight per cent. of food is adulterated in Connecticut. This is the verdict of the board of control of the state agricultural experiment station which recently conducted a series of examinations involving ten hundred and sixty-three articles of food obtained from eighteen cities and villages in that commonwealth. Three hundred and three samples were adulterated.

THE Rush Medical College has affiliated with the University of Chicago. The basis upon which this union was effected demands that the debt of $17,000 shall be liquidated; that the trustees shall not be members of the faculty, but shall be laymen not financially interested in the college income; and that in 1898 the entrance qualifications shall include two years in a standard university.

THE construction of a hospital for the treatment of consumptives and other persons afflicted with contagious diseases is contemplated at Asheville, North Carolina. George W. Vanderbilt has promised to facilitate the success of the enterprise by donating $100,000, and the promoters intend to establish a hospital unsurpassed in appointment by any similar institution south of Mason & Dixon's line.

SURGEON-MAJOR LYONS, president of the Bubonic Plague Research Committee, and M. Haffkine have rendered a joint report of the recent epidemic plague in Portugese India, which declares that preventive serum was effectual in limiting the number of persons attacked by the disease, and in decreasing the mortality. The records indicate that when strong lymph was employed the results were especially satisfactory.

PARIS medical journals recommend formaldehyde as an efficient medicament in the treatment of burns. The wounded area is covered by a compress soaked in a ten per cent. solution. The pain ceases in twenty minutes after the first application, and continued renewals of the compress obliterate all traces of the burn, the claim being advanced that not even the slightest redness of the skin remains to indicate the accident.

THE Ninth International Congress of Hygiene and Demography will convene under the patronage of His Majesty King Alfonso XIII and Her Majesty the Queen Regent at Madrid in April, 1898. The Congress will be formed by the union of the International Congress of Hygiene and the International Congress of Demography. Doctor Amalio Gimeno, professor of the Faculty of Medicine at Madrid, and senator and member of the Royal Academy of Medicine, is the Secretary-General.

DURING the month of December State Analyst Borradaile examined one hundred and twenty-eight samples of food products, and found that forty-eight were pure and eighty adulterated. Colored oleomargarine figured conspicuously in the latter category, there being forty-one samples. State Dairy Inspector Barron visited forty-four dairies during the month and found that seven dairymen were selling skimmed milk in unlabelled cans. The ventilation and sanitary conditions of the dairies were generally poor.

An outbreak of anthrax recently occurred at Falls Creek, Pennsylvania, as a result of handling imported hides in the tanneries. The state board of health called the attention of Governor Hastings to the prevalence of the disease, and he advised the authorities at Washington, requesting that hides infected with anthrax be excluded from our ports or subjected to thorough disinfection. Precautions have been taken by the consular officers to prevent further contagion from this source.

The New York Hospital for Scarlet Fever and Diphtheria was opened for the reception of patients on January 1. The building comprises two pressed brick pavilions constructed in the form of the letter "U," each two stories in height. Special features are a solarium and a roof garden. The laundry and fumigating apparatus are located in the centre of the building. The furnishings embrace iron beds, agate chairs and tables, and glass shelves. There will be no free beds in this institution.

The Roentgen rays were recently held responsible for death by an Elmira, New York court. A criminal was on trial for the murder of a man whom he had shot in the head. The victim did not die immediately but gradually improved for a month, when a skiagraph was made for the purpose of locating the bullet. This procedure was soon followed by the death of the wounded man, and the defense alleged that the sudden demise was occasioned by the action of the X-rays on the brain. The jury accepted this theory and the murderer was acquitted.

There were 38,857 deaths in New York City during the past year. Granting that the metropolis of America has 1,990,562 inhabitants, the percentage of deaths to population for the period mentioned is 19.2 per thousand, which is, according to the final report of the president of the health board to the mayor, the lowest mortality in the history of the city. In the number of deaths in infancy and from diarrheal diseases a notable decrease has been observed. This wholesome result is attributable to the improved sanitary conditions which obtained.

The Saint Louis Laryngological and Otological Society was organized on December 27. It is composed of those physicians of Saint Louis who limit their practice to the treatment of diseases of the nose, throat and ear. Doctor J. C. Mulhall was elected president, Doctor J. B. Shapleigh vicepresident, Doctor F. M. Rumbold secretary, and Doctor A. S. Barnes, Junior, treasurer for the year 1898. Meetings will be held monthly, and it is expected that the scientific programs furnished will be highly interesting and instructive. While the membership is limited, the privilege of inviting professional friends is reserved to each member.

There are 460 medical missionaries in the world, the increase for the past five years numbering 122. Two-thirds of these pilgrims are men, the remaining contingent being represented by women. The denominations leading in the supply are the American Presbyterians and the American Methodists, the former having 71 in the field and the latter 55. The missionary societies in the United States maintain 246; in Great Britain, 174; in Canada, 21. The distribution of this grand army of religio-medical workers gives China 168; India, 165; Africa, 44; Syria and Turkey, 34; and the remaining 49 are scattered over nearly a score of other countries.

RECENT PUBLICATIONS.

REVIEWS.

THE PRINCIPLES OF BACTERIOLOGY.*

THE first edition of this work appeared in December, 1891. The fourth edition now offered is creditable to both Doctor Abbott and the intense interest the public has taken in this new science. The author is a successful teacher and his manual indicates his appreciation of the needs of the student. He has, however, looked further than the teaching of the science, and adapted the work to the needs also of physicians who desire to utilize it in their medical practice. The author has carefully revised the ideas of previous editions and added illustrations and new material, thereby enhancing the value and accuracy of the work.

*By A. C. Abbott, M. D., Professor of Hygiene and Director of the Laboratory of Hygiene in the University of Pennsylvania. Philadelphia. Fourth edition, enlarged and thoroughly revised. Handsome 12mo., 542 pages, 106 illustrations, of which 19 are colored. Cloth, $2.75. Philadelphia and New York: Lea Brothers & Company, Publishers.

CLINICAL METHODS.*

THE title of this work indicates precisely the intent of the authors. It is a description of the methods of clinical investigation. As a guide to the practical study of medicine, and to assist in the cultivation of systematic methods of procedure, it will be invaluable to students. It is thoroughly up to date and will meet the wants of those practitioners who aim to keep informed of the real advances in methods used in diagnosis.

*By Bobert Hutchison, M. D., M. R. C. P., Demonstrator of Physiology in London Hospital Medical College, and Harry Rainy, F. R. C. P., F. R. S. E., University Tutor in Clinical Medicine in the Royal Infirmary, Edinburgh. Handsome 12mo., 562 pages. 137 engravings and 8 colored plates. Cloth, $3. Lea Brothers & Company, Publishers, Philadelphia and New York.

MANUAL OF GYNECOLOGY.*

IN this work the author has departed from the usual arrangement of text-book matter in several particulars. For the convenience of students and general practitioners, the essentials of the subject have been set off from the more complicated details, by the use of two kinds of type. Marginal notes also have been appended and will be found helpful. The work is not assumed to be exhaustive, and yet a more thorough expose is given than is usually expected from a manual. There is a profusion of illustrations, some of which we are pleased to note are original.

*By Henry T. Byford, M. D., Professor of Gynecology and Clinical Gynecology in the College of Physicians and Surgeons of Chicago; Professor of Clinical Gynecology in the Woman's Medical School of the Northwestern University; Professor of Gynecology in the Post-Graduate Medical School of Chicago. Second edition, cloth, $3.00. P. Blakiston, Son & Company. Philadelphia, 1897.

DISEASES OF THE EYE.*

This well-known manual needs no introduction as it has been in the hands of the profession for nearly a score of years. Its merit is attested by the several editions through which it has passed. The present work is the result of revision both in England and America and therefore contains the latest and best ophthalmological ideas of both continents. Its price also renders possible a wide distribution.

*By Edward Nettleship, F. R. C. S., Ophthalmic Surgeon at Saint Thomas' Hospital, London; Surgeon to the Royal London (Moorfields) Ophthalmic Hospital. Revised and edited by W. T. Holmes Spicer, M. A., M. B., F. R. C. S., Ophthalmic Surgeon to the Metropolitan Hospital and to the Victoria Hospital for Children. Fifth American from the sixth English edition. With a supplement on Color Blindness by William Thomson, M. D., Emeritus Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Handsome 12mo. of 521 pages, with 2 colored plates and 161 engravings. Cloth, $2.25. Lee Brothers & Company, Publishers, Philadelphia and New York, 1897.

OPHTHALMOLOGICAL THERAPEUTICS.*

This is an unpretentious little book, but its value has warranted its translation into the English language. It is composed of facts and hints of practical importance in special therapeutics. The topics are arranged alphabetically and treated concisely and accurately. It will be found a useful vade mecum.

*By Doctor Landolt and Doctor Gygax. Philadelphia: J. B. Lippincott Company, 1898.

REFERENCES.

MEDICAL WORKS IN PRESS.

E. B. Treat & Company, 241–243 West Twenty-Third street, New York, announce the early appearance of the "International Medical Annual for 1898." Thirty-eight editors are identified with the preparation of this volume and many special features are promised.

W. B. Saunders, medical publisher, 925 Walnut street, Philadelphia, announces that another volume of the "Text-Book Series"—"An American Text-Book of Genito-Urinary Diseases"—will be placed on the market in February, and that the following works are in preparation for early publication: "An American Text-Book of Diseases of the Eye, Ear, Nose, and Throat"—Doctor de Schweinitz and Randall; "An American Text-Book of Pathology"—Doctors Guiteras and Riesman; "An American Text-Book of Legal Medicine and Toxicology"—Doctors Peterson and Haines; "A Manual of Pathology"—Doctor Stengel; "A Text-Book of Nervous and Mental Diseases"—Doctors Church and Peterson; "A Text-Book of Embryology"—Doctor Heisler; "A Manual of Diseases of the Nose and Throat"—Doctor Kyle; "A Text-Book of Obstetrics"—Doctor Hirst; "An American Text-Book of Nursing"—by American Teachers.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

THE VALUE OF COUNTY MEDICAL SOCIETIES.*

By GEORGE E. FROTHINGHAM, M. D., DETROIT, MICHIGAN.
PRESIDENT OF THE WAYNE COUNTY MEDICAL SOCIETY.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

ANOTHER year's work has been added to the history of the Wayne County Medical Society, and a few moments spent in reviewing that work and in making suggestions for future advancement will not be unprofitable. Your Secretary has, in his report, stated the number of meetings held, and the average attendance upon these meetings, and although the attendance has not been as large as we could wish, and as it really ought to be, considering the large memmership of the society, the quality of the work done has been fully equal to that of any local society of which I have ever been a member. There has not been a paper read or subject presented at any of the meetings, however small, that has not been discussed in an able manner. In fact, as ably and thoroughly as papers generally are in any of our state or national societies. In these exercises the younger members have shown a zeal and ability that promises well for the future of the society. This society welcomes young men. They are made to feel at home by their seniors, and encouraged to take an active part in all the discussions. This is as it should be, and I hope the time is not far distant when every reputable regular physician in Wayne county will be a member of this society. No matter how many other societies a physician may belong to, I believe it is his first duty to become a member of his county society and to give to it his most hearty support. He should attend it regularly and be on time at its meetings, unless urgent cases, sickness, or the infirmities of age prevent him. After this his state society and the American Medical Association should receive all the support he is able to give them. These are the organizations through which alone regular physicians in this country can expect to attain the most influential position and command the greatest respect.

When I first came to this state to practice there were very few medical societies. Societies had been formed, but from various causes had disbanded. The present Michigan State Medical Society had organized but a year previous (1866), and this society was not organized and incorporated until ten years afterward (August 21, 1876). The Detroit Medical and Library Association was organized September 6, 1876. The condition of the profession was one of isolation. There seemed to be no community of interest, no common bond of union to bind together the scattered forces into one grand army of workers who, through united effort, cannot fail to exert a powerful influence over society, and place our profession in that position of preëminence to which it is in every way entitled. In that state of isolation which existed in this state thirty years ago, there was, as a natural result, a cold distrustful antagonism that benumbed generous impulses, and led nearly every man to seek his own selfish ends, without regard to the welfare of the profession as a whole.

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*An address delivered at the annual meeting of the WAYNE COUNTY (Detroit) MEDICAL SOCIETY, October 7, 1897.

While the organization of medical societies has not accomplished all we desire, it has certainly done much in that direction. It has impressed upon us the truth of the old adage that "In union there is strength," and demonstrated the fact that we can fully accomplish the noble object of our profession only by working and acting together. It has led to pleasant associations, and the establishment of friendly relations between those who, but for these societies, would be strangers. It has not only advanced the profession in a scientific way, but it has increased that public esteem without which, in this country, no profession can accomplish the greatest good.

MEDICAL LIBRARY. JUN 23 1899

The history of all ages shows that in every condition and calling of life man needs companionship; that he needs the vivifying influence of association with those of like tastes and pursuits; the communion of mind with mind and the sympathy of his fellow workers, to stimulate his ambition and rouse him to the greatest activity. As COWPER expresses it:

"Man in society is like a flower
Blown in its native bud, 'tis there alone
His faculties expanded in full bloom
Shine out, there only reach their proper use."

I am convinced, after years of observation, that medical men can only reach the highest state of development by active membership in some medical society. The meetings of a medical society constitute one of the best postgraduate courses they can attend. At these meetings they get the benefit of the study and experience of a large number of their fellow workers; they get the result of practical tests of all new theories and remedies on a more extensive scale than any one man can hope to try them; they get the result of the reading and best thoughts of each member, and the system of medical education offers no better method of professional advancement, after the completion of a thorough course of medical instruction and graduation from college, than attendance upon them. It is to be regretted that so few appreciate this fact. And yet it is true that the formation of too many medical societies is to be deplored. It is injurious to the cause it pretends to advance. If it is true that in union there is strength, it is certain that the medical profession would be strengthened by the union of some of the medical societies at present existing. The work can be better accomplished in one large local, state or national society than in many. In large cities the meetings of the county society can be held with greater frequency, and the arrangements for papers can be made to include the more important subjects in every department of medicine. This will allow the specialists ample scope and give them an audience of general practitioners who have to treat all classes of diseases, and who need the aid and must call upon the specialists in the management of difficult cases. Such meetings are mutually beneficial. The general practitioner gleans the results of the more exhaustive researches and greater experience of the specialist, and the specialist learns many valuable facts that have been observed by the general practitioner. It is to be regretted that the general practitioners do not more commonly attend the meetings at which papers prepared by specialists are to be read, and also that specialists do not more frequently attend the reading of papers on general subjects. No specialty can be properly cultivated without a knowledge of diseases in general, and the application of general therapeutic principles. Nor can the general practitioner develop as he should without a proper consideration of special therapeutics. The Wayne County Medical Society affords an ample field for the development of all physicians, whether engaged in general or special practice.

But the function of medical societies is not fully performed, nor the obligation of physicians properly discharged, by the cultivation of scientific knowledge alone. Special meetings should be held for the purpose of considering how this knowledge can be made to do the greatest good for the greatest number. I need not argue here that the hope of mankind, in a medical way, rests with what we call regular or scientific physicians. They have developed the medical sciences to their present state of perfection, and their methods are the only ones by which we may hope for future advancement.

Centuries ago, among the Egyptians, medicine was established upon a scientific basis. Princes engaged in its investigations, and by their personal influence and labor added to the public esteem in which its followers were held. For a time there was a wonderful progress, and the investigations of medical history show that some of the instruments and methods of practice once supposed to be of modern origin, were really known to these ancient physicians. But scientific medicine was defamed and overthrown, and the place it occupied in public estimation was usurped by the devotees of dogmas and superstition. For more than a thousand years, scientific medicine lay crushed under the feet of its adversaries, and the people were robbed and tortured by those who practiced faith cures, miracle cure, and other forms of quackery.

Again, our profession has been established on a scientific basis, firmer than ever before, it is true, but the battle is not yet won. The same old foe still musters his forces in opposition, and only by vigilance and further conflict can we make the victory complete. No profession today is so violently attacked, meets so many obstacles to its progress, or receives so great injustice from those who make our laws. After a long period of medical practice and observation, I am more than ever impressed with the truth of the conclusion which I formed and promulgated early in my professional life. I then declared and still believe, that it is incumbent upon the followers of true medical science, not only to develop and perfect it, but to guard it with a watchful care, and defend it against the attacks of quackery and error; that our duty as physicians is not discharged even when we have practiced faithfully, and bestowed upon our patrons the resources of our art as we have learned them, nor when we have contributed our mite of experience to the general stock of knowledge, but we have another and higher duty to perform, the dissemination of our knowledge, and the transmission of our art, thus improved, to our successors with its reputation brightened and its influence for good increased. This, I hold, should be the greatest object of our profession. We hold in custody a science upon which the sick and afflicted in all future time are to depend for aid, and we are not faithful stewards if we allow the enemies of science, unwatched and unopposed, to undermine and check its progress. I have often thonght we could do more good by increasing public appreciation and respect for what science we now possess, than by devoting ourselves exclusively to its further development, while our enemies, by unrefuted slander, so prejudice the minds of the people, that a large portion are led to reject its ministrations.

In my address on the "Need of Extensive Organization and Pursuit of a Fixed Policy as a Means of Promoting our Professional Interests," delivered before the State Medical Society in 1890, I enlarged upon this theme, and pointed out its special force and application to the condition of medical affairs in this state. I hope that the remarks I then made, fell neither upon "stony ground" nor "among thorns," but that in due time they will bear fruit. I am glad to see that *The Journal of the American Medical Association*, in the number for August 21, 1897, editorially takes up the same subject of politics and the medical profession, and gives emphasis to the views which I have always advocated. From this excellent editorial I quote the following which ought to receive the earnest consideration of every member of our profession. The editor says: "Many a shameless bit of medical jobbery is smuggled into law simply because the men with power hear only the quack's side and not a word is uttered by us who are the appointed guardians of the public health. The few quacks combine, hire a lobby, write a thousand letters, appoint committees, personally intercede and win the day, while we who are 100,000, meet in a thousand societies, local, state and national, and talk about headaches, sprains, and sore toes, but never a word about prevention or cure of the common professional and social miseries that afflict and murder millions. The profession by such silence is not only renegade to its humanitarian function, but it is renegade to its own self-interest. A man may not always be his brother's keeper, but a physician is always so, and when he denies or neglects the fact he is a shirker, and at heart and in fact an enemy of his own guild." *

The action of this society during the past year in this regard is in accord with the code of ethics of the American Medical Association which it has adopted. It was the first local society to memorialize Congress against the passage of the antivivisection bill. It has vigorously opposed the efforts of irregular practitioners in this state to gain ascendency through the passage of an unjust registration bill. It has been prompt in taking action in all matters affecting public hygiene. Its influence has been exerted upon the Legislature and people to maintain the honor and dignity of the regular profession, and oppose those who would degrade it. Its record in this respect is one of which it may well be proud. I hope the day will never come when this society will sacrifice correct principles, and professional dignity and honor by a cowardly submission to the dictation of its enemies. I hope also, that the members of this society will remember that enthusiasm is necessary to success in anything, and that in the future of this organization they will consider their regular attendance upon its meetings paramount to all ordinary social duties. One member said to me not long ago, "I am conscious that I have lost much by not attending these meetings oftener than I have. Hereafter I intend to set apart Thursday evenings for attendance at the Wayne County Medical Society meetings, and no ordinary event shall prevent it." That is a good resolution and I hope all the members will make it.

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* *The Journal of the American Medical Association*, Volume XXIX, Number VIII, page 340.

It is not only humiliating to the officers of the society to have a slim attendance at the meetings at which they have invited physicians to read papers, sometimes, perhaps by those who have come a long distance to read them, but it is discreditable to the society, and tends to drive away its best men. A society with as large a membership as this has (over two hundred), should have an average weekly attendance of at least forty, and they should all be in their seats at the time set for the call to order. I hope the members will see to this and attend more frequently than heretofore, and also be less tardy.

In conclusion, I wish to thank the members of the society for the uniform courtesy which they have extended to me, and which has rendered the duties of my office so pleasant.

MEMOIRS.

A FEW CASES IN GENERAL SURGERY.*

BY F. B. TIBBALS, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE longer I am in practice the more hesitation I feel about appearing before my medical brethren with reports of cases. In these days of specialism, when it is customary to report unique cases by the score, I feel abashed to come before you asking your consideration of a few cases of general surgery, none of which are extraordinary, some of which, however, may merit discussion.

Case I.—MR. W., aged twenty-seven years. Some four years before coming under my observation he had the left foot run over by one or more freight cars, and amputation of all the toes made at the metatarso-phalangeal articulation, but the wound never healed. I found a large discharging ulcerated surface at the end of the stump with a history of the occasional extrusion of fragments of bone, the flaps infiltrated with a great deal of cicatricial tissue, and the whole foot to the malleoli swollen. It was evident that many of the bones of the foot were disorganized beyond repair and I advised amputation at such a point as to meet healthy tissues and sound bone.

At the operation February 18, 1896, I cut through behind the scar tissue, turned back the entire plantar flap and successively removed the metatarsal and all of the tarsal bones except the os calcis, astragalus and cuboid, all bones removed being badly broken down, and then sutured the long plantar flap well up on the dorsum of the foot. For nearly six months the bony fragments left behind adherent to the tissues continued to cause annoyance by preventing final healing of the wound, since which time there has been no trouble whatever.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

The patient has free use of the ankle-joint and the large amount of soft parts saved enables him to wear a shoe as gracefully and comfortably as his fellow men.

Case II.—Mrs. J. W., aged fifty-seven years, the mother of two adult children, and several years past the menopause. When I first saw her in November, 1896, she was intensely nervous, melancholic and despondent, suffering from insomnia, headaches, backaches, constipation and dyspepsia. So marked were the nervous symptoms that her family and friends feared that she was becoming insane. She had been attended here and elsewhere by a dozen able physicians and dosed with everything in both the British and United States Pharmacopeias. After satisfying myself that there was no organic disease I became convinced that the manifold symptoms were due to reflex irritation and as a cause I found a neglected perineal laceration of thirty years' standing with resultant rectocele and highly inflamed internal and external hemorrhoids. The rectal outlet was so obstructed by this combination that the patient's bowels never moved without an enema.

In January, 1897, assisted by Doctors Donald Maclean and B. P. Brodie, I did a modified flap splitting operation to restore the pelvic floor and thoroughly removed all hemorrhoids without ligature except on one or two spurting points. The recovery was uneventful and complete and the patient is today better than at any time for twenty years.

Case III.—Fracture of the Acetabulum.—Mrs. M., aged forty-five years, was thrown from her wheel on the eve of June 24, last, by a collision with another rider, and fell heavily upon her left hip. A half hour later I found the limb drawn up as if dislocated—not everted, and patient unable to straighten it down. Doctor H. D. Jenks kindly gave chloroform for me, rendering a thorough examination and more exact diagnosis possible. I put the limb through the usual movements to determine dislocation. I found it to move naturally in all directions and on then being extended to present no shortening, but on strong external rotation crepitus was distinctly felt by us both and could be obtained in no other way. I am unable to explain the easily reduced dislocation and peculiar crepitus, coupled with the absence of all classical signs of fracture of the femur other than by the diagnosis of fracture of the rim of the acetabulum, and this opinion has been concurred in by several well known surgeons to whom I have detailed the case.

I put on Buck's extension with a pull of eight pounds, sand bags to keep the limb in position, began very gentle passive motion after four weeks, let her up on crutches after six weeks and have the satisfaction of an absolutely perfect limb.

Case IV.—J. L., aged fifty-eight years, consulted me in November, 1894, for what appeared to be a small lupoid ulcer situated directly in the centre of his forehead. Thorough curettement with stimulating applications soon caused the ulcer to almost heal when the patient discontinued his visits and later the growth recurred. For the next nine months I saw him irregularly under about the same conditions. In September, 1895, I excised the ulcer going well into healthy tissues, thoroughly curetted the base, sutured the wound, secured union by first intention and the ulcer never reappeared.

Nine months later, June, 1896, Mr. L. came back with a small cystic tumor at the upper part of the right parotid gland. There seemed to be no infiltration of the tissues and the cyst was freely movable so I incised it getting some serous fluid, washed it out with hydrogen peroxide and packed it. The patient said that the peroxide came through into his mouth and as he had several badly decayed stumps of teeth on the upper jaw adjacent I attribute to them the origin of this trouble.

The cyst failed to heal, discharging first a serous then a muco-purulent sanguineous fluid, infiltration of the parotid began, the patient rapidly lost weight and strength and suffered much pain in the affected region. On July 6 a consultation was held at my office, DOCTORS DONALD MACLEAN, MCGRAW and LAFERTE being present with me and all agreed that the growth was malignant, and, because of its location, inoperable. Rather than consign my patient, unaided, to a fate otherwise hopeless, I decided to use the mixed toxins of erysipelas and bacillus prodigiosus and wrote at once to DOCTOR W. B. COLEY, of New York, the originator of this treatment, who promptly sent me a supply of the toxins prepared by MR. BUXTON at the Loomis Laboratory with directions regarding dosage and technique.

I began them on July 11, using a carefully prepared dilution with distilled water proportioned so that eight minims of the dilution contained one minim of toxins. Beginning with four minims I daily cautiously increased the dose, getting no special reaction for four or five days when on giving the same dose as on the day previous (that is, seven-eighths minims of toxins) my patient reacted in a way that frightened him and startled me, his temperature reaching 104½°.

The toxins prepared by MR. BUXTON are very virulent and extreme care must be used in beginning their use, until the capacity of the patient is carefully gauged, the reaction varying somewhat according to the tissues reached by the needle and the rapidity of absorption. The characteristic reaction produced is a sharp rigor coming on within an hour of injection made into the affected tissues, then profuse perspiration, bounding rapid pulse, temperature 102°–104° Fahrenheit, and prostration. In three or four hours the reaction is over and my patient would then get up, eat heartily and go about the house and yard.

For eight weeks I continued the injection daily or on alternate days, running the dosage up to two minims of the toxins. He gained in strength, appetite increased, and from the first injection his afternoon temperature, reaching 101° Fahrenheit, and local pain disappeared. Locally the growth softened and broke down, and a large portion of it disappeared by absorption and slough. Then the malignant process seemed to regain its vigor, equal or lessened doses of the toxins caused too great prostration, infiltration began in the deeper tissues of the neck, there was slight hemorrhage from the throat and on October 1 the patient died.

I have always regretted not beginning the toxins two weeks earlier when the character of the growth first became suspicious. The remarkable temporary improvement, the complete relief from pain from the first injection to the end and the peace of mind of the patient who was confident of recovery until a very few days of his death would encourage me to use the same method with any other case of inoperable neoplasm coming into my hands.

I should add that a microscopical examination made, before beginning treatment, by DOCTOR W. C. MARTIN showed the growth to be spindle-celled sarcoma.

SOME OBSERVATIONS FROM A SERIES OF CHOREA CASES.*

By HARRISON D. JENKS, A. M., M. D., Detroit, Michigan.

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The material from which these observations are made was collected several years ago, but has never been utilized before. It is the result of an analysis of one hundred consecutive cases of chorea occurring in the wards of the Children's Hospital, Boston. I shall not attempt in this paper to make an exhaustive study of these cases but shall bring out merely a few of the more important points in the hope that they may cause a free discussion of the subject.

The subject of chorea, especially in its relationship to rheumatism and endocarditis, has caused a good deal of interest to the neurologist and to the student of children's diseases. Yet we know very little about the pathology of the disease, and, therefore, a study from the clinical standpoint is of rather more than usual importance. The cases here analyzed occurred chiefly between the ages of two and twelve years, as patients within these ages were practically all that were ever admitted to the hospital. No case was admitted unless of sufficient severity to require hospital treatment, so that all the cases included in the list represent Sydenham's chorea in its severer form.

In regard to the etiology of chorea there seems to be many theories, some good and some bad, but none of them entirely accepted by all. Perhaps the following three are as reasonable as any: first, that it is a direct inheritance of a nervous temperament from a neurotic family, and what in other members of the family becomes insanity, epilepsy or hysteria, in this particular child shows itself as chorea at a period when the child is growing rapidly, and the whole system is in unstable equilibrium; secondly, that it belongs to the class of cases coming under the so-called rheumatic diathesis; thirdly, that it is an infectious disease due to a microorganism and must therefore be self-limited, that the endocarditis so often found with it is that which occurs in other infectious diseases. Possibly the origin is not always the same, and that many elements enter into it.

With this brief introduction given simply to make the subject a little clearer, and not to advocate any special theory, let us turn to a short study of some of the facts.

(1) *Age.*—Of the one hundred cases the average age was 8.8 years, the oldest being fourteen, and the youngest three. In the first hemidecade of life, 1–5, there were but five cases; in the second hemidecade, 6–10, sixty-four cases; and in the third hemidecade, 11–15, there were thirty-one. It should be remembered as mentioned above, that cases over twelve were rarely admitted to the hospital and that therefore these thirty-one cases occurred in children between ten and twelve. Yet it is apparent that the disease is most frequent between five and fifteen years. More cases occurred during the eleventh year than any other single year, about twenty per cent. This corresponds well with the frequency as shown in the very much larger number of cases of the British Medical Association series.

(2) *Sex.*—The number of females affected was sixty-one, of males thirty-nine. This is not quite the usual proportion, since Gowers says it is three times more common in females. It is an interesting fact that the number of girls attacked

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*Read before the Detroit Medical and Library Association.

increased as they approached the age of puberty, and in fact fifty per cent. of all the girls were attacked after the age of ten.

(3) *Season.*—It has seemed more exact to take the time when the case came under medical observation as the starting point of the disease rather than the time given by the parents. The number of cases by months was as follows: January, eleven; February, four; March, twelve; April, eleven; May, thirteen; June, twelve; July, ten; August, seven; September, four; October, eight; November, six; December, two. Hence for the three spring months there were thirty-six cases; summer, twenty-nine; autumn, eighteen; winter, seventeen. The greater prevalence of the disease in the spring and early summer is here well shown. It seems difficult to explain this fact, and many of the explanations seem farfetched. DOCTOR LEWIS, of Philadelphia, shows that the frequency of the cases corresponds with the frequency of acute rheumatism, and with the storm centre of the city, while DOCTOR TOWNSEND, of Boston, believes that the "mental pressure at school, with its accompanying physical depression, acts as exciting causes for the disease."* The first explanation is good, if we accept the theory of the rheumatic origin of the disease; the second is also good if we accept the theory of the inherited nervous tendency. We must accept one of the theories mentioned some time ago, if we would explain the occurrence of chorea according to seasons.

(4) *Recurrence.*—It has been pretty generally recognized that one attack of chorea predisposes to another. There were thirty-eight cases that gave a history of one or more previous attacks. In addition there were fourteen reported as always being "more or less nervous," whatever that may mean. It is, therefore, important in giving a prognosis to remember this fact of recurrence, and to warn the parents to take greater care of the child during the ages when this disease prevails so as to prevent a further return of the disease, and to remove any factors which might produce nervous irritability. A boy of nine had had attacks more or less for four years. One year before entrance he was fitted with glasses, but was given no medicine. As he was not benefited, he was given Fowler's solution in addition. The chorea then stopped; to return again as soon as the glasses were left off. Here it would seem that the condition of the eyes acted as irritant, and was responsible for the recurrence. The greatest number of recurrences was in a boy of twelve who had had within the five or six years preceding his appearance eight previous attacks and was then treated for the ninth.

(5) *Causes.*—In a considerable number of cases the parents gave a direct history of something which they regarded as the cause of the attack. Fright seemed to have brought on twelve of the cases; in four it was a recurrence, and in the remainder it was a primary attack. In the English series fright was made responsible for about twenty-five per cent. of the cases. GOWERS states that the cases coming from fright are usually of rheumatic origin, but in none of these was there a rheumatic history. Grief, in one case where the mother had died a short time before, was given as a cause of the attack. Scarlet fever, measles and rheumatism in seven cases were either the immediate cause or else closely associated with the chorea. Curiously enough there was but one imitation chorea, acquired, it was said, from a bad choreic schoolmate sitting next to the child. Some exciting cause was, therefore, ascribed in

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* "Etiology of Chorea:" Paper by CHARLES W. TOWNSEND, M. D., Boston.

twenty-three of the one hundred cases. Yet it seems unlikely that any one of these causes could have started up the disease unless the child had had distinctly a nervous temperament and been poorly nourished physically.

(6) *Character of the attack.*—(a) Onset. In all but six of the cases the onset was gradual; in the six the attack began suddenly or within a day or so showed severe symptoms. Here is what may be regarded as a sudden one. A girl of twelve years left home for a walk Saturday morning. She received no fright. On her return in two hours she began to twitch violently, and within three or four hours was unable to sit on a chair. She entered the hospital on the following Monday when she was found to be in constant motion, and it was impossible for her to hold anything in either hand; in fact it was with difficulty that she was kept in bed. It was noticeable how many of the cases had come on gradually, and further that these cases responded to treatment less rapidly than those of sudden onset. A few of the cases seem to have extended over several months, and in one or two instances over a year with exacerbations and remissions, any unusual thing seemingly being capable of starting the disease afresh. (b) Parts affected. There was hemichorea in nineteen cases, the right side being affected in twelve cases, the left in seven. Two cases were said to have started in the lower extremities. In nine cases the most marked lesions were in the facial muscles. In fifty-one cases the chorea was more or less general with "characteristic movements." Incoordination of speech occurred in twenty-nine cases. (c) Duration. The length of the attacks from the time the first symptom was noted until the discharge from the hospital can be given in eighty cases. Of this number the average length was 11.2 weeks, while the average duration in the hospital was 4.9 weeks, showing that the cases as a rule were recognized about six weeks before entrance. (d) Result. As a result of treatment sixty-four of the one hundred cases were discharged well; thirty-one as relieved; three unrelieved, the parents removing them against advice; two cases ended fatally. The fatal cases were complicated with heart trouble and will be mentioned more particularly later on. Such cases as were discharged relieved were in the majority of cases kept until but a few choreic movements were left, and were for practical purposes well of the attack. However, as I shall show later on, a large number of cases were affected with cardiac trouble, and these cases while well of the chorea went out with a more or less permanent cardiac trouble.

(5) *Rheumatism and Endocarditis.*—Advocates for or against the intimate relation of chorea to rheumatism have spent much energy in collecting facts and statistics to support their views. Jacobi in speaking of this subject would intimate that the confusion arises in making a diagnosis of rheumatism in a child, and that the rheumatism of a child is not always the same as that of the adult. It has therefore been rather difficult to determine exactly whether in these histories there was really a rheumatism present or not, and there may be some inaccuracy in spite of care. In ten per cent. of the cases there was a rheumatic history in some of the immediate family, and in nine per cent. it was the father or mother that had been afflicted. Garrod says he found in eighty cases that thirty-eight per cent. had a family history of rheumatism, yet in his statistics he makes out that chorea is usually of rheumatic origin. In the personal history twenty-five cases were shown who had rheumatism. Now four of the twenty-

five had had rheumatism in the family as well, so that if all cases are counted but once we find thirty-one out of the one hundred cases had a pretty clear history of rheumatism in themselves or family. This surely shows that "rheumatism appears more frequently in a choreic person than can be accounted for by coincidence," and that rheumatism, even if it be no more closely related to chorea than some authorities think, at least predisposes to chorea.

The relation of chorea to cardiac lesions, especially to endocarditis is also a close one. While it is not always easy to say that a murmur represents a permanent lesion of the heart, we can be reasonably sure if we find in a case under observation a month, a murmur always present at the apex transmitted to the axilla with more or less enlargement of the heart and an accentuated pulmonic second. In twenty-three cases there was such a murmur at the apex. One of these had a pericarditis as well. One had a mitral systolic murmur not transmitted to the axilla which disappeared later. Three more cases had simply irregular rhythm in the heart beat without signs of definite lesions. One case with a murmur which at the time of the chorea attack was regarded as hemic five months later reappeared and died in the hospital of chronic endocarditis. One case had a mitral presystolic murmur, doubtless the result of a permanent lesion. Of the twenty-five cases presenting definite valvular lesions twenty-two had no previous attack of rheumatism, and but five of them had had a previous attack of chorea. There were, therefore, seventeen cases which developed an endocarditis in a primary attack of chorea independently of any rheumatism. **Osler** states that "there is no known disease in which endocarditis is so constantly found postmortem as chorea." He also states that in one hundred and fifteen fatal cases that he collected there were but ten with normal hearts. While the statement of **Garrod** that the endocarditis of chorea is always rheumatic may be rather strong, yet we must acknowledge that there is a very close connection between chorea, rheumatism and endocarditis. Two of the cases complicated with endocarditis ended fatally. The first of these was a girl of nine sick with chorea three weeks. She had never had rheumatism or previous attack of chorea, and there was no rheumatic family history. She had marked choreic movements involving the whole body. During the last week of life she developed a marked mitral systolic murmur. The heart lesion was apparently the cause of death. No autopsy. The other case shows a curious mingling of rheumatism, chorea and fatal endocarditis. It was a girl eight years old who, one month before entrance, had had fever, pain in the knees, swelling and pain of ankles with the joints successively involved. This lasted three weeks. One week before entrance she developed choreiform movements of face, eyes and hands. Examination at this time showed the heart enlarged, a mitral regurgitant murmur present, and within a few days pericarditis developed. The chorea involved the face muscles so much that speech was impossible. The anatomical diagnosis made following the autopsy was chronic pericarditis, acute ulcerative endocarditis with occlusion of a branch of the left coronary artery. The brain was not examined. This might have shown what **Walton** and **Vickery** say is common in fatal cases of chorea, organic disease of the nervous system, especially cerebral embolism.

It is of interest to note that of the murmurs which appeared to be organic one only developed in the hospital, the others occurring before entrance.

(8) So far as further complications are concerned they were of no importance, and were simply accidental and not worthy of consideration.

(9) *Treatment.*—Anything like an adequate idea of the line of treatment used in so many cases is impossible. There was, however, one thing insisted upon in all cases, namely, absolute quiet, which was best gotten by bed treatment in either isolated rooms, or in localities removed from the observation of other patients. This was sufficient to relieve ten per cent. of the cases with the slight addition of an iron tonic in anemic cases, and port wine in those not especially anemic. Quinine in small tonic doses was used in a few cases with distinct benefit, but in the cases in which it was used in full doses so as to get cinchonism no benefit was derived, but it even seemed to make them worse and had to be withdrawn. In a number of cases the hypnotics, chloral, sulphonal, et cetera were used with partial success only. They were used in cases in which the patient had insomnia or was unable to rest quietly in bed. In the greater number of cases, sixty-five per cent., arsenic in the form of Fowler's solution was used in small doses at first, rapidly increased to tolerance. A number of other drugs were used in some of the cases, but if they failed to give results arsenic was used, either alone or combined with a tonic of some sort.

CONSTIPATION.*

BY JOHN N. BELL, M. D., DETROIT, MICHIGAN.

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RETENTION of feces from any cause is known as constipation. This condition may be likened to the stoppage of one of the city's great sewers. Accumulated sewage undergoes decomposition, poisonous gases are formed, which, circulating back through the smaller tributaries and escaping at manholes and places where defective plumbing exists, pollute the atmosphere and produce disease. So, too, in the colon, that great main sewer of the body, retained feces undergoing decomposition produce ptomains and excrementitious substances which in turn are absorbed producing retrograde changes in the blood.

It has occurred to me that, by a wise provision of nature, the toxicity of this vitiated blood is possibly attenuated by the anatomical arrangement of the blood-vessels engaged in the process of absorption from the descending colon, sigmoid flexure and rectum. The inferior mesenteric vein returning the blood from this region of the intestinal tract enters the splenic vein just as that vessel is about to join the vena portæ. Is it not quite probable that the bacteria at least, in this poisonous stream, here about to enter the general circulation, are pounced upon by the hordes of leucocytes which, it has been demonstrated, abound in the splenic vein—the relative activity or sluggishness of the spleen possibly determining the severity of the toxic symptoms in constipation? This, however, is mere conjecture.

Consequent upon the failure of the bowels to perform their eliminative function, we find an increased activity in the other emunctories, notably that of the lungs, evidence of which we have in the foul breath and coated tongue of the sufferer from constipation. The brain makes its protest againt this unwholesome nourishment in the form of headache and mental depression;

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

the stomach is rebellious, and the skin takes on a muddy hue which is quite characteristic.

Constipation is more frequently found in dark than in fair persons; it is quite a common symptom in infancy; lessens in frequency in vigorous, active childhood, and again reasserts itself when the worries and cares of business life and household duties are assumed.

Women are more subject to constipation than men. In a paper on this subject read before the American Medical Association at Atlanta, DOCTOR E. S. PETTYJOHN, of Alma, Michigan, reports a series of three hundred cases in which sixty per cent. of all suffered from constipation. In two hundred and nineteen cases presenting for treatment at Harper Hospital Polyclinic in my department (diseases of women), fifty-eight per cent. complained of constipation.

The causes which produce this condition are very numerous, and may be divided into general and local.

Of the *general causes* sedentary habits and lack of exercise (by predisposing to lessened peristalsis) are prime factors in producing this condition. Faulty posture at stools is also a cause, the squatting position being the best. This I believe to be due, not only to the pressure of the thighs on the lower abdomen but to the straightening of the spinal column on the pelvis, thus in the process of expulsion bringing the pressure to bear more directly on the fecal mass.

Errors in diet may produce constipation. Thus an excess of starchy food, by gaseous distention of the gut, produces a partial paralysis of the muscular coat. Too much coarse food such as vegetables, coarse bread, et cetera, by leaving a large residue, produce an overstimulation of the peristaltic action of the bowel followed by inactivity, which results in retention. On the other hand, a diet consisting of milk, eggs, et cetera, by being principally absorbed in the stomach and smaller bowel leave insufficient residue to produce the necessary desire for an evacuation. A deficiency of fat, sugar and salt in the milk of a mother of the constipated habit will produce constipation in an infant, as will, also, an excess of casein in the milk of the hand-fed. When a desire to defecate is neglected, the bowel, after several unsuccessful attempts at expulsion, accommodates itself to the extra load, the desire for evacuation subsides, absorption goes on, and we soon have a dry hard fecal mass lodged in the sigmoid flexure or rectum to obstruct the passage of other feces which follow. Torpidity of the liver, from whatever cause, by lessening the amount of the natural purgative bile secreted, will cause constipation. Peritonitis, by reason of edema of the bowel tunics, lessens peristalsis and constipation results. Insufficient ingestion of water, or excessive perspiration, by depriving the intestinal tract of its normal amount of fluid predisposes to dryness of the feces. For the same reason in the polyuria of diabetes we have constipation. When there is a deficient secretion of either the stomachic or intestinal juices or both with the normal amount of absorption going on we are liable to have constipation as a result. Lack of development of either the cerebro-spinal or sympathetic nervous system is also a possible cause. This applies especially to any condition which interferes with the action of the inferior mesenteric ganglia which presides over the sigmoid flexure and rectum. Tuberculosis, tubercular meningitis, myelitis, syphilis, lead poisoning, anemia and rachitis by the general depressing effect which they exert on the nervous system weaken the peristaltic action of the bowel and produce constipation. Depressing mental affections are potent causative factors in young adults, as is also business worry in those of more advanced years. Melancholia is considered by some a cause, but it is a mooted question whether the melancholia is the cause or effect of constipation. In any condition where we have a lessened amount or poor quality of blood (such as anemia) the consequent impoverishment of the parenchymal ganglia is followed by weakened peristalsis and constipation, hence the benefit derived from massage. The habit which some individuals acquire of constantly dosing themselves with purgatives has its baneful result in the reaction which follows a too active stimulation of peristalsis.

Of the *local causes* of constipation atony of the colon (and particularly of the muscles of the sigmoid flexure) takes precedence. This condition is brought about, in the majority of cases, by ulceration and local inflammatory disease of the mucosa, which leaves a crippled peripheral nerve action and consequently a poorly transmitted stimulus to the evacuation centre. Retrodisplaced and prolapsed uteri, ovarian and other tumors, physiological and pathological, are also important local causes of this condition. Persons afflicted with fissure of the anus or piles, when the desire for an evacuation presents, are prone to postpone the act because of the pain produced—the result is constipation. Relaxation of the muscles of the abdominal wall from repeated pregnancies or obesity, by bringing about the condition of enteroptosis with its aggravated acuteness of the hepatic and splenic flexures, weakened innervation of the intestinal bloodvessels and consequent congestion and malnutrition of the tissues, predisposes to constipation. Nests of lumbricoid worms, constricting bands resulting from peritonitis, and, in children, congenital malformations and intussusception are also local causes of constipation.

The *symptoms* which result from retention of feces are as numerous as the causes which produce the retention. As the result of toxicity of the blood brought about by absorption we may have headache, melancholia, hypochondriasis, unconsciousness, acne, gout, rheumatism, nausea and anorexia, eclampsia in children, and, as claimed by some authors, even insanity. As the result of pressure due to prolonged retention of feces in the sigmoid flexure and rectum, we may have ulceration of the bowel wall, piles, varicocele, varicose veins, neuralgia of the sacral nerves, uterine displacements, disease of the left ovary, obstruction to pelvic circulation generally and reflex neuroses. In the region of the transverse colon from pressure due to feces in this portion of the gut we may have jaundice produced by obstruction of the hepatic duct, or we may have irregular pulse, vertigo, and palpitation of the heart due to pressure on the portal system of vessels. Decomposition of food by formation of gas will produce colic and flatulence. The lungs and skin in their attempt to eliminate the effete material in the colon will produce the foul breath, coated tongue, and muddiness of complexion which we so often find in this condition.

With regard to the *treatment* of constipation, it will be necessary to direct our efforts toward the removal of the cause in each individual case. The modes of treatment may be divided into medicinal, nonmedicinal, and a judicious combination of both.

The routine administration of drugs is not advisable. The vast majority of cases, other than those due to some local obstruction, can, by a judicious combination of exercise, dieting, massage and sufficient ingestion of water, be at least greatly benefited if not cured. Of course there are times when it is absolutely necessary to administer drugs, for instance, in the constipation of peritonitis, local or general, when it is desired that we produce a watery evacuation with as little disturbance as possible to the bowel and pelvic organs, magnesium sulphate is almost indispensable. In cases presenting with an atonic condition of the muscular coat of the bowel we may, with propriety use, for a time at least, cascara sagrada or the pill or tablet containing aloin, strychnia and belladonna. This treatment should, however, receive efficient reinforcement and finally be supplanted by intelligent exercise and massage. Glycerine suppositories, by determining a watery flux to the rectum, find their therapeutic indication in softening up and removing impacted feces from the rectal ampulla.

When the cause can be attributed to errors in diet, the treatment will necessarily be directed to correcting the error. If it is found the patient's diet consists of food the bulk of which is absorbed in the upper bowel and stomach we would add green vegetables, brown bread or some laxative fruit such as apples, pears, et cetera which by leaving a greater residue would produce the necessary stimulus for an evacuation. On the other hand if it is found the diet is too course we would modify it so as to relieve the overstimulated and partially paralyzed bowel.

In the treatment of the severer forms of this condition known as obstipation it will be well for us to keep in mind the fact that an abnormally long transverse colon, as pointed out by Doctor McGraw, may, by sagging in the centre, assume a V shape, the feces, being unable to round the point of the V, collect and form a tumor in the right hypochondriac region, which condition may be relieved by placing the patient in the knee-chest position and encouraging the onward movement of the bowel contents by massage. Constipation due to pressure from tumors will of course necessitate the removal if possible of the obstructing body.

LORD LISTER AND HIS WORK.*

By GEORGE T. McKEOUGH, M.D., M.R.C.S. (England), L.R.C.P. (Edinburg), Chatham, Ontario.

[Published in The Physician and Surgeon exclusively]

Those members of this society who had the pleasure of meeting the right honorable the Lord Lister at the recent meeting of the British Medical Association in Montreal, met a hearty, well preserved and kindly-looking English gentleman.

Lord Lister was born near London, in the county of Essex, seventy years ago, of Quaker parents. His father was a man of means and fond of scientific pursuits, two important factors in the subsequent education and history of his now distinguished son. He secured his education at the University of London, taking his B. A. degree in 1847 and his M. B. five years later. While at University College Hospital he was a pupil and house surgeon of Erichsen, who afterward became an enthusiastic student of Lister's. While a student in

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* Read before the Detroit Medical and Library Association.

London he showed a marked aptness for laboratory work and original investigation. On completing his course in London he went to Edinburg where **Syme** had made for himself a world-wide fame, and there became closely associated with the great surgical wizard of the north. During this period our own **Donald McLean** was a student and resident medical officer under **Syme** at the Royal Infirmary. Here as well as in Glasgow, where he was appointed Professor of Surgery in 1860, he continued faithfully and arduously to pursue those scientific inquiries and investigations in physiology and pathology which were eventually to revolutionize surgery, and give him so high a niche in the temple of fame. He again returned to Edinburg where he was Professor of Clinical Surgery for some time, but in 1876 he was induced to go to London and take a position as surgeon in Kings College Hospital, which he resigned only last year.

At the annual meeting of the Canadian Medical Association last year **Doctor Stewart**, of Halifax, an old house surgeon of **Lister**, drew attention in an interesting paper to some of the earlier pathological work of **Lister** which has been overshadowed by his more brilliant work on antiseptic surgery, but which was of great practical importance, and prepared the way for the acceptance of the germ theory. Chief among his earlier investigations was his work on the essential nature of inflammation, which occupied his special attention for several years, and his results were finally published in the "Transactions of the Royal Society for 1858." The theories regarding inflammation at this time were in a most transitory and unstable condition, and **Lister's** work removed many wrong speculations regarding the nature of the inflammatory process, and many interesting facts in physiology and pathology were for the first time discovered and demonstrated. As a result of his experiments he established the fact "that inflammation may be brought about in two totally distinct ways, namely, either by the direct operation of a noxious agent upon the tissues, or indirectly through the medium of the nervous system. He also showed that blood in its normal condition has no tendency to coagulate, and that coagulation does not necessarily imply death of the blood, but that blood clot may become organized and epithelial cells develop over it. The importance of this phenomena first pointed out by **Lister**, although **Hunter** believed it possible, is difficult to ovestimate.

A few years ago **Doctor Holmes** and myself treated a compound fracture of the leg in which the greater portion of the articular surface of the tibia and a large portion of the adjacent articular surface of the astragalus were shattered and removed. The intervening space was allowed to fill with blood, and the wound was treated carefully according to **Listerian** principles. The man at present has scarcely a perceptible limp in walking, and we believe ankylosis was prevented and a much more useful joint obtained by the vascularization of the blood clot.

The same principles explained healing by first intention, and the germ theory afterward illustrated the too frequent failure of union. Granulating tissue was shown to have no tendency to suppurate unless irritated. This had an important bearing upon the treatment of ulcers. By the removing of the irritation the tendency to suppuration ceases. **Lister** also "laid stress upon the fact that a granulating surface was a nonabsorbing surface, and that a wound was safer from infection when once covered by granulations, and he spoke of the granulating surface as a 'living plaster' or proteccion."

These and like experiments formed the basis of a subsequent work which led up to the great feature of Victorian surgery, the introduction of the antiseptic method which has caused **Lister**'s name to stand out prominently above all other contemporaries.

Lister was profoundly versed in the philosophy of **Pasteur**, that savant of the savants, and was a diligent worker in the same field. **Professor Charles Richet**, of the University of Paris, in his recent able address before the British Medical Association gave a touching reminiscence of these two eminent men. "On the occasion of **Pasteur**'s jubilee a great celebration was prepared for him in the Sorbonne. In the presence of the leading men of science of the world, there was a moment when the great surgeon who was the first to perceive how to apply to the practice of his art the theory of pathogenic parasites, drew near to **Pasteur** and gave him a fraternal embrace. These two great benefactors of humanity united in their common work afforded a spectacle never to be forgotten—a striking reconciliation of medicine and science."

After **Pasteur** had shown "that putrefaction was a fermentation caused by the growth of microbes, and that these could not arise *de novo* in the decomposable substance, **Lister** had the scientific insight to perceive the relation between the surgical germs which **Pasteur** desbribed and surgical fever. Previous to this he thought that the suppuration in wounds was due to a fungus, but it soon became clear to him after carrying these investigations of **Pasteur** further, in their applications to wounds, that the origin of these poisonous organisms and the changes they produced was the source of the terrible evils that surrounded surgical practice, and he at once began to revolve in his mind the problem of excluding them. This inquiry became the great object of his life. Eventually the many difficulties were overcome and surgical fever no longer attacked his patients. These truths, soon to be almost universally applied, were published in 1867, and in his first paper special reference was made to compound fractures, and the principles of treatment enunciated. These are those which guide the surgical world today in the treatment of wounds. In this paper **Lister** pointed out that it was not the character of the injury, as we all know now, nor the air itself that led to the disastrous consequences which so frequently followed injuries and operations, but that it was the living particles which were in the air and upon every surrounding object which finding entry into the wounds set up decomposition, and thus gaining egress to the body were the cause of all the train of morbid processes which followed. He further pointed out that it should be the endeavor of the surgeon to prevent the admission of these microbes into the wound at the time of the operation, and to apply a dressing capable of keeping them out of the wound unil it was healed. Carbolic acid, used at first concentrated, afterward diluted, was the substance first recommended, and in spite of the numerous antiseptics that have been introduced since, it is remarkable that carbolic acid still holds its own as one of the most important.

Watson Cheyne says "that the principle of wound treatment first enunciated by **Lister** remains the same at the present day. Subsequent investigations have only shown its accuracy, and although it has been amplified in many directions, it must always remain untouched." It must be remembered that it was not a mere fortunate guess, but the result of purely scientific induction, supported in its successive steps by laborious experiment. What has been the result? Those of us who studied surgery or practiced it twenty-five years ago will remember some of the disgusting sights and nauseating odors of the surgical wards of our hospitals. The suppurating stumps with their poultices, the putrefying wounds, the flushed feverish faces—nothing could be more depressing. What a contrast today. No more delightful visit can be made than to one of the surgical wards of our modern hospitals; no disagreeable hospital odors; no agonized faces, but with few exceptions happy and cheerful patients greet you everywhere.

LISTER, in his address before the British Association (1896), states that he was told by SYME that he (SYME) was induced to think that it would be on the whole better if all compound fractures of the leg were subjected to amputation without any attempt to save the limb. He also gives a remarkable example of the value of his principles. In the general hospital of Munich where PROFESSOR VON NUSSBAUM was surgeon in chief, hospital gangrene became more and more rife year after year, until eighty per cent. of all wounds became affected by it. The institution became so hopelessly infected that the civic authorities were contemplating its demolition when PROFESSOR VON NUSSBAUM sent his chief assistant to Edinburgh, where LISTER had the chair of clinical surgery, to learn the details of antiseptic surgery as it was then practiced. He soon mastered the principles, and after his return all cases were, on a certain day, dressed on LISTER's plan. From that day forward not a single case of hospital gangrene occurred in that large hospital.

Time does not permit to dwell upon the extension of the field of surgery largely due to the results of antisepticism. Operations which formerly would have been considered entirely unjustifiable or even criminal are now performed with absolute safety and impunity.

That such new truths would encounter scepticism and opposition was only natural and right, but by degrees all doubt and obstacles vanished, and today the surgical world almost universally accepts aseptic or LISTERIAN surgery as a priceless boon to mankind.

LORD LISTER's personality seems to be as charming as he is great. He is endowed with a rare modesty, a loving tenderness of heart and an entire freedom from affectation. In his wards he was uniformly kind and courteous to all visitors, and never tired of imparting information. FAITH FENTON, of *The Toronto Mail and Empire*, who wrote of the proceedings of the recent meeting of the British Association for that paper, thus speaks of him: "We listened and looked at each one of them in turn, but our gaze lingered longest and last on the dearest old face of all, a face whose lovableness we shall always remember—that of LORD LISTER."

Honors in recent years have been literally heaped upon LISTER. Most of the great universities of the world have hastened to bestow their degrees upon him. One of the greatest ovations he ever received was at the opening ceremony of the great International Medical Congress in Berlin in 1890. Seven thousand people were present. As VIRCHOW and other celebrities ascended the tribune applause burst forth again and again, but when LISTER appeared the applause he secured exceeded the combined ovations of all the others.

At the beginning of this year he was elevated to the peerage of England, the first medical peer, an event regarded with universal satisfaction throughout the medical world of the British empire. It must have been a matter of extreme satisfaction to him to have secured his two most important home honors from the two most conspicuous English statesmen of the present day. From Mr. Gladstone he obtained his baronetcy, and from Lord Salisbury he received his peerage. As a surgeon he was one of the most careful and successful. Whether his patient was a hospital patient or a private one he had the same solicitude for them. But beyond his care for individual patients he was ever the scientific seeker after truth, and it was his brilliant application of scientific principles to practical surgery that produced his wonderful results.

We cannot all be a Lister, but I think some of us can with advantage cultivate his simplicity and humility, his patience and industry, and those qualities of careful and intelligent observation, and the application of knowledge to the comprehension of truth. He is the type and model of the scientific physician and surgeon, and the example he has set in this respect to the profession is almost as great a benefaction as his priceless gift of antisepsis, and should inspire all to act and to work on similar lines.

A REPORT OF TWO CASES OF CAESAREAN SECTION.*

By J. H. CARSTENS, M. D., Detroit, Michigan.

CHIEF OF STAFF AND GYNECOLOGIST TO HARPER HOSPITAL; PROFESSOR OF OBSTETRICS AND CLINICAL GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; EX-PRESIDENT OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS, ET CETERA.

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The first case was reported at the meeting of the American Medical Association at Philadelphia last spring, and is as follows:

Mrs. L., aged twenty-six years, pregnant with second child, was operated upon at the Woman's Hospital. She had a large dermoid tumor in the cul-de-sac, lessening the antero-posterior diameter to five centimeters. It was absolutely immovable—firmly adherent in every direction. The operation was quickly performed, a living child removed, and it was then found that the tumor sprang from the left ovary and could be removed, which was done, and the uterus reunited with deep and superficial sutures. The pelvis was large and roomy, and offered no obstruction to future labor. The woman got along well, except that she had a very rapid pulse, which aroused suspicion, and careful examination of the uterus was made by the aid of a peritoneal retractor, and from it was found issuing a purulent, bad-smelling discharge, which had not been noticed by the nurses giving the douches. The uterus was carefully cleaned with absorbent cotton and swabbed out with carbolic acid, but it was of no avail, and on the fifth day the patient suddenly collapsed, her pulse became faster, and she died.

The postmortem showed that the abdominal cavity was perfectly normal and clean, and the incision in the uterus was closed firmly, but inside of the uterus, in the line of the incision, there was an ulcerative process. Doctor Sargent made a careful bacteriological examination and found only the staphylococcus pyogenes aureus, plainly showing that the operation had nothing to do with the result, but that the infection came from the vagina. As she had been examined by the house physicians and a number of students, as well as himself, there must have been carelessness somewhere in observing aseptic precaution.

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*Read before the Detroit Academy of Medicine.

The second case is one delivered by the writer eight years previously, by means of craniotomy and evisceration. It was a most difficult case at the time, and I warned the patient then that if she ever became pregnant again, premature labor or Caesarean section would be necessary. She did not become pregnant until this year, and living out in the country, called on a doctor in the neighborhood and advised him of the admonition received at the time of her last confinement. But this physician told her that he would see her through all right. When labor set in the trouble began, and after being in labor three days, calling in counsel, and after the use of forceps, and an effort at craniotomy, she was finally sent to Harper Hospital, where I performed a Porro-Caesarean section. The child was dead, but was of an immense size; the woman made a splendid recovery. Total extirpation of the uterus was practiced, as this was without danger of puerperal fever, to which the woman certainly was liable after the manipulation and handling she had undergone. In this case the antero-posterior diameter was seven centimeters (that is, two and one-half inches). The question of symphysiotomy was considered, but knowing the dangers of symphysiotomy, and the great risk from puerperal sepsis, it was, after considering all the facts, and thorough consultation, thought best to perform a Porro-Caesarean section.

In conclusion I would state that in the present state of our knowledge no definite rule regarding the management of these cases can be laid down, but that everything has to be considered—the surroundings, time in labor, the size of the child, the cause of the obstruction, and that every case should be judged on its own merits, and that every case is a law unto itself.

THE TOXIN AND SERUM TREATMENT OF INOPERABLE TUMORS.*

BY FRITZ MAASS, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY.]

THE observation that accidental erysipelas effected the cure of malignant tumors has brought about many experiments in this direction. First, the living microbes of erysipelas were inoculated, later their soluble toxins, then these mixed with the toxins of the bacillus prodigiosus, and finally the sterilized cultures of both containing soluble toxins and the dead bodies of the microbes were used. The greatest credit for developing this treatment belongs to COLEY, of New York.

EMMERICH and SCHOLL worked in a different way from COLEY, not administering the erysipelas streptococcus directly to the patient. Sheep were inoculated with erysipelas, and the serum of these employed in the treatment of inoperable tumors. The authors called their product carcinom-serum or erysipelas-serum.

Another serum is prepared by two French investigators, HERICOURT and RICHET. They inject donkeys with the juice of malignant tumors, and prepare their cancer serum from the blood of the inoculated animals.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

All these authors, by their treatment, saw inoperable tumors favorably influenced, but they did not regard their success sufficient to recommend the methods in cases in which operation is still possible.

According to COLEY* the mixed sterilized cultures of streptococcus of erysipelas and bacillus prodigiosus have in short given the following results: Out of one hundred and fifty-seven cases of inoperable malignant tumors four remained well for two and one-half to four and one-half years. These the author considers permanently cured. In some cases the tumor disappeared for a shorter time; in some it diminished in size and then grew again. Spindle-celled sarcomata yielded most, carcinomata and melanotic sarcomata least to the treatment.

Among other writers some also report cases favorably treated with the toxins, while others did not observe any improvement. None of them gave as large a series of cases as COLEY.

EMMERICH and SCHOLL† reported in 1895 a few cases treated with the serum of sheep inoculated with erysipelas. The tumors diminished in size or disappeared entirely. The time elapsed since the treatment was too short to speak of a definite cure. Later reports of the same authors I have not found. The results of others, as far as I saw them, do not confirm the opinion that EMMERICH and SCHOLL's serum is a specific for malignant tumors.

RICHET and HERICOURT,‡ who prepared their serum by injecting donkeys with carcinom juice, report as follows on a series of fifty cases. The injections lessen the pain, produce healthy granulations and diminish the size of the tumor, but do not effect a total disappearance of the disease. I cannot give better results reported by other authors.

You will observe from the literature referred to above that all these different methods have a favorable but very limited and uncertain influence on malignant tumors. Whether by further experiments the methods can be developed to give better results or not, the future will reveal. When employing them, however, we must remember that our efforts, although appearing at first somewhat promising, may finally only produce harmful results. It is this uncertainty that renders the most dangerous operation, if carefully and completely performed, preferable to the injection treatment. The following is a case in point:

The patient, a male twenty years of age, noticed about six years prior to July 16, 1897, a black, slightly prominent spot in the sole of his left foot near the toes. By slow enlargement it reached the size of half a dollar to a dollar and was inclined to bleed, but caused no pain and did not interfere with walking. About six months before, after having recovered from a gonorrhea, condylomata developed at the penis, which the patient treated successfully himself by cutting them off. At the same time the glands in his groin began to swell. His physician gave iodide of potassium, and as the tumor became softer made an incision. Very little matter escaped. The glands in the groin continued to grow, ulcerated, and the discharge from them became very offensive. A surgeon was called but found the tumor too far advanced for extirpation, and recommended injections of alcohol. These were administered about fourteen days, and then discontinued on account of pain produced by them. Any beneficial effect from the treatment upon the tumor was not noticed. During this time the tumor

The American Journal of Medical Sciences, September, 1896.

†*Deutsche Medicinische Wochenschrift*, Number XVII, 1895.

‡Compt. rend. des seances de l'Acad. des sciences, Number XVII, 1895.

in the left groin constantly grew, and the black spot in the left sole diminished in size, as the patient and his mother and the attending physician positively affirm. The patient usually felt well, but sometimes was so weak that he did not like to speak.

On examination July 16, 1897, I found a well nourished young man. His hair and eyes were dark and his skin of a yellowish tint. Temperature normal; no sugar or albumin in urine; lungs and other organs apparently healthy. In the left sole was a slightly prominent wart with black pigment of the size of a five-cent silver piece. In front of the left thigh, just below Poupart's ligament, was a fungus-shaped, ulcerated tumor with a very offensive odor. The height of the tumor measured three by four inches, the circumference at the base fifteen inches, at the top eighteen inches. The ulcerated surface showed deep recesses and was of a greyish color. The skin covering and surrounding the tumor was reddish blue and shining, in an area of two by four inches from the base of the tumor. Separated from the main tumor, just above Poupart's ligament, another tumor as large as a hen's egg could be distinctly felt in the pelvis. The central end of this tumor seemed to be movable. By deep pressure the iliac artery could be felt between the tumors.

The growth was apparently so tightly connected with the large vessels of the leg that enucleation without rupturing them was not feasible. Extirpation with the vessels would undoubtedly have been followed be necrosis of the leg. The only possible operation, therefore, was extirpation of the tumor with exarticulation in the hip-joint. To do this a preliminary ligation of vein and artery above the smaller tumor would have been necessary. I informed the patient that I intended to try this latter first, and, if possible, to immediately exarticulate the leg with the tumor; but if this procedure was not possible, to leave it alone. The patient would not give his consent, preferring to elect injections with COLEY's mixture. After having explained to him that this also was not without danger, and with less hope for recovery than the operation, I proceeded with the injections. At the same time I removed a part of the tumor for microscopical examination. The patient had no sensation of the cutting. The abundant bleeding was checked by compression. In regard to microscopical diagnosis made from this piece, I can only say that the slices at some places looked like carcinoma and at others like sarcoma. Probably its correct classification would be as a melanotic alveolar sarcoma.

On the morning of July 22, I gave the patient an injection of one-half minim of COLEY's mixture. The reaction was a very feeble one, the patient only noticing slight discomfort. I asked DOCTOR LENHARD, who had seen the case in the beginning of the disease, to kindly watch the patient after the injections, as he was living near by. He was detained this day and came in as the patient felt well again, so there was no observation of temperature or pulse made.

On July 23 I injected two minims. About ten or fifteen minutes later a severe chill set in lasting for about an hour, accompanied by a temperature of 103°, very rapid pulse, vomiting, diarrhea—stools of green color, very dark urine, terrible pain about the heart, and profuse sweating. The patient was so nervous that he could not stand the slightest noise in the room. Next morning he felt well again and ate with appetite. During the severe reaction the patient and his relatives feared that death was imminent, but they were not deterred from continuing the treatment, and looked very hopeful upon such a powerful remedy.

Two days later I gave another injection at the same place and of the same amount. The reaction was slight.

The following days I gave each time one minim more, always at the same place, but did not get a severe reaction until five minims were reached. Subsequently I tried to increase the doses according to the reactions, but could not get higher than seven minims. The reactions depended not only upon the high doses, but also upon the seat of injection. When I injected at a new place I sometimes got a reaction from a dose which would not cause further disturbance at the place where injections had been made before. According to COLEY's advice I usually produced one severe reaction in a week out of three or four injections.

The extraction of the needle was followed by a stream of blood like that from an artery each time a new place for injection was chosen, but the bleeding could always be controlled by compression. The discharge from the ulcerated surface became decidedly more abundant, and consequently the tumor decreased somewhat. Whether more necrotic pieces came off than before or not remained doubtful. The injected parts were of softer and more flabby consistency than the other parts of the tumor. The skin surrounding the growth showed the appearance of erysipelas extending more in the central than in the peripheral direction. No albumin was found in the urine. It was not convenient to weigh the patient, but my impression is that he gradually lost in weight.

COLEY says that if there is no decided improvement in from fourteen days to three weeks the treatment should be discontinued. I certainly could not see a decided improvement, and as COLEY never obtained any good results in melanotic sarcomata I was inclined to act upon his advice, but the slight decrease in size and the softening of the tumor induced me to persevere. The slow decrease in size continued but the patient became weaker and weaker, and after six weeks I practically discontinued the injections, giving the patient one of about one minim from time to time on his own request.

Profuse spontaneous bleeding from the tumor favored his decay. The left leg swelled enormously; also the left side of the abdomen and the thorax. Scarcely any swelling was noticeable on the right side. This edema was independent of the patient's position in the bed. Small metastases formed during the treatment in the area of pseudoerysipelas—the redness around the growth. The patient died on the 21st of September, 1897. The result of the postmortem I show you here. The large tumor is seen in close connection with the femoral vessels. Here also is a specimen of the numerous small metastases found in the liver which were of the same size as those in the skin surrounding the tumor. The remedy has secured a decrease in the size of the large tumor, but has not prevented the formation of metastases. On the contrary I believe it has favored the development of the latter. During the treatment several little nodules appeared in the skin—just in the area of pseudoerysipelas and not beyond this line.

In regard to the chances and advisability of an operation I might say: The postmortem revealed numerous liver metastases. If these were present at the time I suggested exarticulation, the improvement only could have been a transitory one. But under how much better circumstances would the patient have lived? The large offensive tumor needed constant care, and the immensely swollen leg, like a log attached to it, prevented the weakened body to leave the bed. The loss of blood and of the serum discharged with the pus drained away his strength. The absorption of decomposed matter caused headache and spoiled appetite. These latter symptoms at intervals were increased by the injections. To obviate so much discomfort for the short period of life remaining, even a dangerous operation seems worthy of election. But I think there was still a better chance than this for temporary relief. The numerous metastases in the liver were of the same size as those in the area of pseudoerysipelas near the tumor. These latter commenced to grow several weeks after I began the toxin treatment. Most probably also the liver metastases were of the same age, and were not yet in existence when the operation was spoken of. Now the question confronts us, was it possible at that time to entirely remove the large tumor and the glands near by in the pelvis? The feasibility depended entirely upon the previous ligation of the iliac artery and vein. This, either intra- or extraperitoneal, had to be tried first. Should this have proved an impossibility then the tumor would have had to be left alone. If an exploratory incision is ever justifiable it is so in such a case as this. The patient declined and I did not try to persuade him. Whether my attitude was right or not, is a doubtful question.

I have not yet had the time to make a close microscopical examination of the different pieces preserved from the postmortem. Therefore I cannot give a more definite description of the texture of the tumor and its possible resemblance to the black wart in the sole of the foot.

Returning now to the toxins and serums, there are some interesting opinions about the active principles. PETERSEN of Héidelberg* has experimented with the toxins and the serum of EMMERICH and SCHOLL. He arrived at the conclusion that probably the serum of sheep, treated with erysipelas, contains a certain amount of toxin. The serum, therefore, in regard to its effects on the patient is nothing but a diluted toxin. The mixed sterilized cultures of streptococcus of erysipelas and bacillus prodigiosus do not produce any other symptoms than the sterile cultures of bacillus prodigiosus alone. The dead erysipelas cocci can be injected in ten times the quantity of the prodigiosus, and have even then a less severe action. He was not able to detect a specific action of erysipelas toxin upon the tumor cells. He saw edematous swelling, fatty degeneration and very rarely inflammatory reaction. All this can also be produced by other fluids. ARLOING and COURMONT† have had the same results with normal serum of donkeys as they had with such serum from animals treated with tumor juice according to HERICOURT and RICHET. A specific active principle in the French cancer serum seems therefore doubtful, too.

As my limited and unfortunate experience with mixed cultures is outweighed by the results of COLEY, I will try them again in inoperable or cases similar to the above if operation is refused. But I think I will recommend the operation more strongly. The toxin treatment is also recommended as a preventive after operation. Taking the very doubtful results and the danger connected with it into consideration, the method should only be used when our operation is not radical enough. This certainly cannot always be decided during the operation, but a careful macro- and microscopical examination of the removed piece or pieces will always clear up this very important point. The practical value of microscopical examination lies not only in the classification of the tumor, but also in searching for remaining parts of the new formation.

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*German Congress for Surgery, Berlin, 1896.

†*Province Med.*, Number XXI, 1896.

I omitted to speak of the results which are obtained by living streptococcus cultures weakened by heat. Perhaps one of the members of our society can contribute something in regard to this. I have not found any article giving any considerable series of observations with such weakened cultures.

DIAGNOSIS.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

DIAGNOSIS "implies a complete, exact and comprehensive knowledge of the case under consideration, as regards the seat, extent and nature of all existing morbid conditions."—ROBERTS.

At the present time a positive diagnosis cannot be made in all cases, but with the steady and progressive improvement in the methods of diagnosis, the invention of instruments, et cetera, for diagnostic purposes, there may come a time when diagnosis will be absolutely correct.

To be a good diagnostician one should have a knowledge of anatomy, physiology, bacteriology, microscopy, et cetera, supplemented by a sufficient fund of good common sense. To these requirements should be added not a small number of instruments for diagnostic purposes, microscope and chemicals for laboratory work, and last, but not least, a supply of patients and sufficient time to thoroughly investigate the different cases presented for diagnosis.

Is it possible for the busy general practitioner to make diagnoses in the latest scientific manner or will he have to depend upon others to help him? To my mind a good plan would be to have a general laboratory conducted by thoroughly equipped men where physicians might take specimens of sputum, stomach contents, urine, et cetera, for chemical and microscopical examination, and also have experts in the different branches of medicine to consult with and examine the patients of the general practitioner and confirm or aid him in making a correct diagnosis. Would physicians avail themselves of such an opportunity? Some might, but a large remainder would not; they would still continue their haphazard method of making a diagnosis.

From a financial standpoint this feature might be good, as a small proportion of physicians only can avail themselves of the latest books, instruments, and microscopes, for diagnostic purposes, and these aids to diagnosis might be obtained for a moderate fee.

While all physicians are likely to err in making a diagnosis, and different opinions may honestly be given, I believe that in time there will be less occasion for disagreement. Many errors in diagnosis are made in ignorance, and no small number by carelessness. Too often the word of the patient is taken as to what the trouble is and he is prescribed for without being asked a question. Of course all cases do not require an elaborate examination, but even the seemingly simple ones should receive at least thoughtful consideration.

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* Read before the DETROIT ACADEMY OF MEDICINE.

The following cases are mentioned to show how easily errors may be made:

Last winter I was called to treat a man who informed me that he had "pleurisy." He said that he had had several attacks and had been treated by different physicians, none agreeing as to the diagnosis—one saying it was gastralgia, another pleurisy, and still another neuralgia of the heart. The patient was sitting in a rocking chair, leaning forward. The left side respiration seemed embarrassed and he complained of a burning pain in the region of the heart. I had the clothing removed from the upper part of the body. Examination revealed no pulmonary, cardiac or gastric trouble, but palpation revealed tenderness along the course of several intercostal nerves, and the presence of a slight herpetic eruption proved to my satisfaction intercostal neuralgia, which yielded under appropriate treatment.

About one month ago a young man called at my office in the evening just as I was about leaving. He said that he had the piles, and suffered extremely. He had seen several physicians, used a large number of remedies, ointments, pile sticks, et cetera, for several months and the trouble kept getting worse. Only the first physician he had consulted examined him and he pronounced the affection external piles. To be candid, I was in somewhat of a hurry, and was about to give him a preparation for piles, when I said an examination would be necessary, and this led to the discovery of a very extensive growth of veneral warts surrounding the anus. These warts dated from an attack of gonorrhea contracted six months previous. I removed them the day after his visit.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, SEPTEMBER 20, 1897.

THE PRESIDENT, HOWARD W. LONGYEAR, M. D., IN THE CHAIR.
REPORTED BY P. O. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR F. B. TIBBALS read a paper entitled "A Few Cases in General Surgery." (See page 53.)

DOCTOR ROBBINS: I have been very much interested in the history of the cases as reported by DOCTOR TIBBALS. The reports of the first two cases appealed to me with particular interest, number one on account of the care that the doctor took in operating in such a way that he removed just as little tissue as possible. Among our younger surgeons there is an anxiety to go above diseased tissues, to do more than is absolutely necessary, and I believe a little more conservatism in our operative procedures would result in greater satisfaction to ourselves and to our patients. I know very little about the treatment of inoperable sarcoma or carcinoma by the method reported. I had its inefficacy firmly impressed upon my mind at the meeting of the American Medical Association in Baltimore, where DOCTOR SENN expressed himself very decidedly as having very little, if any, faith in the use of these double antitoxins in these cases. At that time he reported their use in ten cases with no results that gave him any satisfaction, although in his usual conservative way he would not condemn the procedure without putting the method to still further use, because in these distressing cases anything that gives any hope at all is worthy of trial. DOCTOR McGRAW will know more particularly about the number of cases that have been treated at Saint Mary's Hospital with this method, but with what success I do not know; yet the impression is quite strong with me that the results are unsatisfactory. DOCTOR KEEN expressed himself in the same way that DOCTOR SENN did, and DOCTOR COLEY himself, while giving some encouragement, did not hope for much marked benefit from the treatment.

DOCTOR HITCHCOCK: I have very little to add to the doctor's paper, in which he presents to us a series of interesting cases. His second case was certainly illustrative of what careful searching for causes of symptoms may bring forth. This patient, while she had been under treatment of many men, like the woman in the scriptures, suffered much at the hands of physicians. Her trouble was evidently overlooked by failure to look for some exciting cause for reflex symptoms. The third case strongly suggests to my mind a case in my own remembrance which occurred before I studied medicine, and a case which DOCTOR McGRAW will recall, and which gave my father no end of trouble—a case in which he was sued for malpractice, and yet a case he never saw, strange as it may seem. He was surgeon to the railroad at Kalamazoo, and being obliged to go out of town for several days he said to the agent if any cases should come up requiring medical attendance he was to call another physician named by my father and he would attend to them. While he was gone a man in passing up the railroad track met with an accident which resulted in fracture of the rim of the acetabulum. A suit for damages was entered, my father being the defendant. Considerable litigation followed but the claim for damages for malpractice was not sustained. I know very little from my own experience about the use of toxins in the treatment of inoperable tumors, but I am of the same opinion as DOCTOR ROBBINS, that the claims for which DOCTOR COLEY is so enthusiastic do not seem to have been borne out by the experience of others. It occurs to me that the action of these toxins is not as yet well understood.

DOCTOR McGRAW: I have seen a half dozen cases in my own practice and in the practice of DOCTOR DONALD as well as the one referred to by the essayist in which the antitoxins have been used against sarcoma and carcinoma, and have yet to see a successful case from its use. There is apt to be a good deal of deception in these cases. I remember being called once to see a case in the interior of the state with multiple sarcoma of the ribs. I did not operate upon the patient and was unable to make a microscopic examination. I learned afterward that the tumors had disappeared without treatment. The patient died a short time afterward and the physicians had a postmortem examination and found a large tumor in the abdomen. Microscopic examination revealed it to be a sarcoma. The superficial tumors, without any treatment at all, had entirely disappeared from the man's body. You will observe this occurrence in certain forms of lymphomata, which become absorbed. If they recover by electrolysis or antitoxin it but proves their deceptive character.

Doctor Longyear: Spindle-celled sarcomata sometimes return after removal of the primary tumor. I think **Doctor McGraw** will remember a case he saw with me in consultation in which I detected a small spindle-celled sarcoma which was attached to one of the Fallopian tubes. There were nodules which could be felt all through the pelvis. I removed the growth. The woman was incapacitated from work, went home, and there was every evidence of its having returned six months after. She was engaged at the time, was married and has three children, and is alive and well today.

Doctor Tibbals: I presume cases of that kind would explain the successful cases reported by **Doctor Coley**. I may be wrong in my deductions regarding toxin in these cases. The only effect that I could see from its use was temporary improvement and relief of pain. Of course it may be that relief of pain was not due to the toxin but to the destruction of the facial nerve by the growth of the tumor as reported in my fifth case.

STATED MEETING, OCTOBER 4, 1897.

The President, HOWARD W. LONGYEAR, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor George T. McKeough read a paper entitled "Lord Lister and His Work." (See page 63).

Doctor Donald Maclean: I really feel somewhat reluctant to undertake the task of discussing so able and just and comprehensive a question (Lord Lister and His Work) as **Doctor McKeough** has presented us with. I feel that it is beyond my power to add anything to what he has said or to do justice to so great a subject, and still I may perhaps be pardoned if for a few moments I permit myself to indulge in some personal reminiscences of Lord Lister. I met him first in the Royal Infirmary in Edinburgh, and I said to him in Toronto when I met him there a few days ago, "Do you realize, Lord Lister, how many years have passed since you and I first met in the old Royal Infirmary," and he said—"No, I do not remember, but I know it is a good many." I replied that on the first of October, 1898, it would be forty years. That is a very long time in a man's life, but I remember him then very distinctly and very well, and one impression that he made on me as a young raw student. He impressed me at that time with the idea that he was not only anxious to cure his patient or patients but that he always was aiming at discovering and determining some means by which he could help others to cure their patients. His ambition was to discover something by which mankind and the profession at large should be benefited. I think that has been the characteristic feature of his whole career. I do not believe that any lesson we could learn from him would be of more value than that very idea. He was a favorite pupil of Professor Syme. While still a student in Edinburgh he was there known as an extramural lecturer. It is a well known fact that, in his early years at all events, Lister was a very poor speaker, was very hesitating, uncertain and uninteresting in his method of expressing himself. The consequence was that he had a very small class of students. When I first knew of him in this capacity he had but four pupils. Notwithstanding that he was always working along the line of scientific problems, writing the history of **Lord Lister** and making a record for himself. Betimes he secured the chair of surgery in the University of Glasgow. It was here he began his **Pasteur** studies. I left there in 1862 and visited Edinburgh again in 1869, renewing my acquaintance with **Professor Syme**, and the last thing but one that he said to me was—"**Maclean**, you keep your eye on **Lister** and his antiseptic doctrine. Mark my word, there is something in it." I did so and have watched every step of the process, and now I will draw a diagram, as it appears to me, of his discoveries and advances in antiseptic surgery. (Here the doctor illustrated on the blackboard the various steps). **Lister** went laboriously at work in the pursuit of a fundamental principle. He knew what he wanted to discover and in endeavoring to do so he took a long round about way. He deserves as much credit for what he did do as for what he did not do. For instance, suppose **Columbus**, in starting out to discover America, sailed far north and then far south and in this way took a great round about journey—if he had just sailed direct from Southampton to New York he would have accomplished his purpose in a great deal less time. So, if **Lister** had taken a short cut across much time and labor would have been saved. In concluding these brief remarks I wish to say that I took the privilege of bringing over this portrait of **Lord Lister**. There he stands today the embodiment of what is good and great in science, in surgery, in medicine and in manhood.

STATED MEETING, OCTOBER 25, 1897.

The President, ANDREW P. BIDDLE, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor John N. Bell read a paper entitled "Constipation." (See page 60.)

Doctor Knill: The doctor's excellent paper has left very little to be said on the subject. There is no doubt that constipation is one of the most common ailments we have, not only as existing alone but when associated with other diseases, and it requires intelligent management. Of course the difficulty in many cases of constipation is the treatment, especially in those who have been constipated for years and at the same time have disturbances of the stomach and other organs. One great drawback is in getting patients to help in curing their constipation. I think while diet is a prominent factor in producing good results we have to resort to medicines to improve the condition, and we must make patients understand that these medicines have to be continued for a considerable length of time to get good results. As to massage, we hear a great deal about it but it does not furnish very satisfactory results because patients will not take the time to rub the bowel daily so as to accomplish the end sought after, and which we get so promptly from the administration of medicines. The doctor speaks of phagocytosis destroying the effects of the toxins developed as a result of constipation. We have albuminoids which are poisonous, and it is through the means of the liver that these poisons are prevented from entering the system. The liver either prevents that entirely or by means of the liver cells it gives up these poisons so gradually that they do not affect the system.

Doctor Inglis: I can only add a few practical points in regard to the therapeutics of constipation. The best remedy for constipation as it occurs in general practice (not referring to cases of obstruction from tumors, flexures or organic causes) is a pair of boxing gloves. The lawyer or bank clerk who can find time to attend a gymnasium or take vigorous outdoor exercise, by putting on the gloves and sparring fifteen minutes with some constipated fellow will set all of his muscles, including those of his large intestine, into vigorous activity. The bicycle is an excellent remedy. It is objected that in our clinics many men who work at hard bodily exercise are constipated. The answer is this: Exercise too arduous or long continued exhausts instead of stimulates. Too long bicycle riding by its exhaustion tends to cause constipation, but vigorous stimulation which is not exhausting has an opposite effect. It is the refreshing active exercise which sets the blood circulating with a rush which starts peristalsis. Of internal remedies one of the most valuable is sweet oil in teaspoonful doses. Small doses are of no service but taken liberally the oil prevents the desiccation of the feces in the colon and softens them when desiccated. Another remedy by no means to be overlooked is the old sulphur and cream of tartar. This is of especial value when constipation is accompanied by hemorrhoids. The stool secured by this remedy is soft but not diarrheic. Lastly, but by no means least in efficiency I would mention farradic electricity. A farradic battery will start into activity and ultimately strengthen the muscular fibres of the most inert colon. The magneto-electric machine, which is the cheapest on the market, is for these purposes better than a battery which gives an even fine interruption. This crank battery gives shocks varying in speed and intensity. The result is somewhat similar to the shocks of a static machine. Farradism to be of service needs to be used once or twice daily. It is therefore necessary to instruct the patient in the use of the battery at home.

Doctor Carrier: Doctor Inglis starts out with his illustration by referring to the bank clerk and lawyer and advising the use of the boxing gloves. He cannot do that with dispensary patients. In my special line I find constipation is the rule. Now, what is constipation? I do not think it is necessary that every person should have a daily evacuation of the bowels. If one has a movement of the bowels every two or three days, and that has been habitual for years, I do not think such individual is troubled with constipation so long as he suffers from no other disturbances as a result thereof. I do not believe in medicines, or very few at least, for the relief of this trouble. I have more faith in habit. It is possible that it must be relieved for two or three times at the outset by the use of medicines, and olive oil, as suggested by Doctor Inglis, is about as efficient as anything else. It does not pass down as olive oil but is converted in the intestinal tract into a saponaceous substance softening the hardened feces and producing an easy evacuation. As regards habit, I suggest to my patients that they go to stool religiously at a regular hour each day and as far as possible to attend to their duties in that respect at a special time daily, and I find it gives better results than medicine of any kind. The accomplishing of regularity is of great benefit. The giving of medicines is apt to be followed by requiring the administration of larger doses each succeeding time.

Doctor Longyear: This is a subject that might be prolific of discussion by everyone here and yet not entirely exhaust it. I am glad the doctor brought up so common a condition as the subject for his thesis. We have to contend with it in the special line in which I am engaged. The number of cases in which the female genital organs are diseased and constipation is absent are very rare. It is almost invariably a symptom, and is mòre the result of interference with the proper nerve action than any other cause. I think the sympathetic system has a great deal to do with the trouble here. When the cause is removed the constipation generally yields. We have to resort to means for immediate relief, and I think the doctor has fairly well covered the ground in that respect. One thing he has not mentioned, and that is flushing of the bowel, not with any fluid that is irritating, but by a normal saline solution—which acts in a mechanical way. The combination of that treatment with olive oil is very valuable. As Doctor Carrier says, I do not think the oil goes down as olive oil but being acted upon by the ferments in the alimentary tract passes down as soap and proves very beneficial. I think Doctor Metcalf can tell us something about the reflex causes which produce constipation.

Doctor Metcalf: The scientific consideration of the subject by Doctor Bell and the liberal discussion leaves little to be said. Doctor Longyear has referred to the reflex disturbances which may cause constipation. I might mention a few special conditions which I find have been productive of obstinate constipation. One is irritation of the sigmoid flexure. We know that when constipation has existed for some time the fecal mass remaining in the colon (the fluids being absorbed, the mass passing down into the rectum) will certainly in a short time be recarried into the colon, for the rectum is not the natural lodging place for the fecal mass. I find great benefit not only from washing out this part of the bowel as suggested by Doctor Longyear, but by injecting some antiseptic oil and then following it by some astringent as may be preferred. The larger proportion of cases of constipation are accompanied by internal hemorrhoids. I believe that in my own experience fully eighty per cent. are troubled in this way. Constipation following retroversion of the uterus can be cured by putting the uterus in the proper position. Another cause which is very common is phimosis, both in men and women, and I have noticed that the condition is relieved by circumcision. Prostatic troubles are also a frequent cause of constipation. I refrain from giving many medicines, except small doses of calomel at the outset. The various remedies mentioned this evening are useful.

Doctor F. L. Newman: I have enjoyed the paper very much indeed as well as the discussion, particularly that of Doctor Metcalf in which he speaks of the ovarian and uterine troubles producing constipation reflexly. We do very often see that illustrated. Many of our female patients with ovarian irritation have constipation, and purgatives act very badly in these cases. These ovarian irritations act reflexly by lessening the peristaltic action of the bowel. I find that small doses of opium will relieve the constipation better than any other remedy.

Doctor W. S. Anderson: I was very much interested when Doctor Carrier spoke of the habit of going to stool at a special time each day as a cure for constipation. It reminds me of a "School for Boys" where each boy was required to attend to the calls of nature at a certain hour each day. One cause of constipation in a great many women is that they are simply dried up. If asked what they eat and how much they drink they will reply that they have a cup of tea for breakfast, dinner and supper. If these women could only be induced to drink some water I do not believe they would have constipation. I many times direct them to put a drachm of magnesium sulphate in a teacupful of cold water and drink it with their meals. I find considerable benefit from a teaspoonful of magnesium sulphate in a cup of hot water taken before breakfast. The stimulating effect of the hot water is very beneficial. I firmly believe that habit and the training of the child is a very important matter.

Doctor MacMillan: One thought that I would like to mention in this connection is the fact that feces that are constipating are usually not toxic, and the toxicity in the case of constipation is a good deal less than when the material in the alimentary canal is more liquid or semifluid. I believe with **Doctor Carrier** that if it has been the habit of a person for a number of years to have probably only one evacuation every second or third day, if there are no other bad symptoms, it is well to leave nature alone. **Doctor Inglis** speaks of the bank clerk using boxing gloves. I never knew any who were particularly pugnacious. I believe very moderate exercise of the muscles of the body would prove more beneficial than any violent form of exercise. Flushing of the bowels also at the beginning of the treatment is a very excellent thing.

STATED MEETING, NOVEMBER 22, 1897.

The President, ANDREW P. BIDDLE, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Harrison D. Jenks read a paper entitled, "Some Observations from a Series of Chorea Cases." (See page 56.)

Doctor F. L. Newman: The paper is a very interesting one to me, and the doctor has been very fortunate to observe so many cases in so short a time. As regards the etiology of chorea it has always seemed to me to be a very difficult question to imagine that it was due to any one particular poison, from the fact that so many cases come on so very suddenly. One writer on the subject says that chorea is a disease caused by a variety of poisons acting in an individual previously susceptible to the disease, and he seemed to think that these poisons might be acting, although not showing themselves, and the fright might simply be the cause determining the disease when it shows itself. As to the period of the year when it occurs, the doctor's cases seem to show that the greater proportion of them develop in the spring, but I would like to ask if he has any idea as to its periodicity when the climates are different. I do not believe that cases which occur in southern countries show that same ratio.

Doctor Bonning: I think most of the cases that come under our observation are clearly traceable to rheumatism. As far as treatment is concerned I think we derive more benefit from arsenic, phenacetine and salol than from any other drugs. I insist on rest by putting my patient in bed, keeping it away from school and from play.

Doctor Sherrill: I have had very little experience with the treatment of chorea. Some few cases have come under my observation but they were of a mild character. Those with which I have dealt I think I followed the usual lines of treatment referred to, such as aresnic, asafetida and massage, and particularly inunction of oils along the back. One case in particular I recall because there seemed to be some question for a time about the diagnosis. I asked another physician to see the case with me and still we seemed to be in doubt. Finally the family asked for a second consultation. At this time the conclusion was that we were not dealing so much with chorea as with some other disturbance of the nervous system. Really the case was a very interesting one, and was quite puzzling because of its obscurity. As it advanced it seemed to develop into a case of hystero-epilepsy.

Doctor Carstens: I formerly saw a great many cases in my dispensary practice, and I looked upon chorea then as a disease to be treated simply on the individual principle. Each case was a rule unto itself. I do not believe we know today what the cause of the trouble is, but there certainly is some central brain lesion, the cause of which we are not positive. I remember distinctly of seeing quite a number of cases which were due to nicotinism, the patients having been employed in tobacco factories. Others were due to reflex causes such as worms, and still others were due to necrosed teeth. One has to examine every case carefully and then the line of treatment will suggest itself. Arsenic, quinine, iron and other remedies are beneficial. There are other causes such as fright, and then you have to ask yourself where the seat of the trouble is. As the doctor says, many of the cases are due to rheumatism, and we ask ourselves, What is rheumatism? I believe it is some defect in the process of digestion and elimination, whereby certain substances which should be expelled from the body are retained and result in irritation at certain points of the nervous structure. If you get at the bottom of the trouble the proper treatment is indicated. I used to give patients a combination of zinc and arsenic with a good deal of success.

Doctor Moran: I was in hopes the doctor would have given, more in detail, the general outline of the treatment, and as to the more recent methods, and not the old standard lines of arsenic, iron and quinine. Out of the few cases that I have had the opportunity to see recently, in three of them I tried thyroid extract. In two of the three it seemed to have even a better effect than ordinarily results from arsenic. In the other case it had absolutely no effect. One case in particular, a child about nine years old, manages to have an attack three times a year regularly, each attack lasting about six weeks. In many cases of chorea in children the nutrition is materially interfered with, which, if looked after, we can dispense with therapeutic measures almost entirely, depending rather on rest and proper nutrition. In this case which occurs so frequently the child cannot tolerate more than five drops of Fowler's solution.

Doctor McGough: I have a case which is quite obscure. The attack came on about last June. The boy had failed in his examination at school. After that the choreic movements were intensified. In regard to the treatment, I give iron and arsenic. I have also given cold douches with the result of stimulating his appetite and general condition.

Doctor W. S. Anderson: We should not confine our treatment to the disease but should look for associated causes. During the last year I have seen cases of chorea and epilepsy that seemed to be due in part or entirely to certain affections of the respiratory tract, for instance, in children adenoid affections of the pharynx seemed to be the cause. Upon removal of the adenoids the patient would be relieved. Of course I do not mean to say that adenoids are the cause of chorea. Children affected with scrofulous disease are more apt to develop chorea. We should make a careful examination of the child from the top of his head to the sole of his feet.

Doctor Chittick: The majority of cases of chorea which I have had to treat I can trace very plainly to fright or some vasomotor disturbance of the brain such as failure in examination and other causes. Some sedative such as valerianate of zinc with the nutrition carefully looked after result very beneficially. I have given fresh carbonate of iron with marked benefit.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, NOVEMBER 23, 1897.

The President, DAVID INGLIS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Docter W. J. Cree read a paper entitled "Diagnosis." (See page 73.)

Doctor Emerson: I have enjoyed the paper for its suggestions. As the author states, the essence is a thorough, comprehensive knowledge of disease. It should be a satisfactory knowledge and not a surmise, but it is not always possible to get this. When the knowledge of the disease is concealed, we must go without absolute knowledge and base treatment on the best theory. Though the knowledge of anatomy and physiology are essential, the differential knowledge is the most important. Differential diagnosis should be taught thoroughly. It is impossible to keep up with all the specialties, and it is not necessary to do so, since we have even in this city those to whom we can go for laboratory work and research. Their fees are not excessive. It is now possible for the physician to call in some one who will make an uncertainty reasonably certain by his newer methods.

Doctor Lyon: I am brought in contact with those whose special work seems to be all going to pieces, as the prescription work becomes less and less, and it has occurred to me that perhaps those who are not engaged in the practice of medicine might become aids to the busy practitioner. Why might not the pharmacist of the past complement the physician in some of the specialties requiring laboratory work, that is, in bacteriology, et cetera?

Doctor Thaddeus Walker: I do not believe that men outside the profession can properly attend to such work as that mentioned by **Doctor Lyon**. The diagnostician of the laboratory should be also at the bedside so as to take into consideration the patient's physical condition. Diagnosticating is almost a profession itself, and the expert must get clues at the bedside, and follow them until he finds he is wrong, when he may have to start over again. Laboratory work is interesting, but is not very profitable for the time required to be spent. It depends wholly upon the technique. The laboratory work of one case may be very easy, while that of another similar case may be very difficult and require a great deal of time, incommensurate with the fee received.

Doctor Chittick: Our discussion is getting complicated; we should bend our energies to make the diagnosis perfect. We should take advantage of every possible point, and especially should know about the peculiarities of the different professions and trades, as these may develop peculiarities in disease. Some physicians announce that they will do laboratory work, examine pathological specimens, et cetera. There are several in this city who will do such work. I do not believe it absolutely necessary to see a case to make a diagnosis. In fact, if one sees the patient presenting certain symptoms belonging to the disease, he will be prejudiced when examining the specimen. The physician should examine in his office for germs that are easily found.

Doctor Hitchcock: There are several men in town who have fitted themselves to do fine work, and I see no danger of their being misled when they have the specimen before them, provided they understand the work. There is a good deal of loose work where there is no diagnosis made; the case is called by a popular name with no attempt at accurate diagnosis at all. The evidence present in the case should be considered and then a diagnosis made accordingly.

Doctor Metcalf: Much has been said about the ideal course. Might not the State University be utilized to examine specimens and report results? Such use could be made easily now that we have such ready means of communicating between places, thus we would all remain students of the University, and the taxpayer would receive direct benefits from his money.

Doctor Connor: I believe there can be no scientific practice without diagnosis, since diagnosis is the basis of relief from all morbid conditions. Too much knowledge may be dangerous, since the accurate diagnosis of a hopeless case may mean the discharge of the doctor. Diagnosis is the broad study of the individual, his surroundings and his family history and his previous illnesses. When we have made a systematic study, we shall find some groups of organs affected. We may need to examine the blood, or the eye. If we can do it ourselves, we should do so, but if not, we must call in assistance. Some seem to have the knack to make a diagnosis and some do not. A consideration of the temperament of the individual is important, since some deceive and distort facts badly. The laboratory, and accessory appliances are valuable, but a hard shrewd-headed man will diagnosticate often more correctly than the laboratory man. We should guard against too little use of head and eyes. Modern appliances added to keenly developed senses will be the most successful.

Docter H. D. Jenks: The days of careful differential diagnosis are not yet gone. Frequently a careful consideration of all the symptoms, and then after such consideration, the grouping of all the diseases which might possibly arise from such symptoms will help us to a more accurate diagnosis. This careful exclusion of the diseases not at all likely in a given case, gives us at the same time the more probable diseases, and we are therefore on our guard to attempt an even more careful differentiation. Fewer mistakes would be made if we were more careful in differential diagnosis.

Doctor Cree: I am pleased with the free discussion tonight, and this confirms me in my belief that a short paper often brings out more discussion than a more elaborate one.

STATED MEETING, DECEMBER 14, 1897.

THE PRESIDENT *pro tempore*, W. R. CHITTICK, M. D., IN THE CHAIR.

REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR J. H. CARSTENS read a paper entitled "Two Cases of Caesarean Section." (See page 67.)

DOCTOR AARON: I have seen two cases with DOCTOR CARSTENS. One case was brought to the hospital just as DOCTOR CARSTENS appeared, with the story that the fetus was alive, and the mother was dead. The ambulance surgeon had refused to do the Caesarean section, but had brought the case to the hospital. DOCTOR CARSTENS quickly did the section, but the baby was then dead. I should like to ask if it was justifiable for the ambulance surgeon to go ahead and deliver child by Caesarean section? Could he be sure the woman was dead and not merely fainted?

DOCTOR WILSON: I have seen cases in which Caesarean section was the only thing to do, and yet it was not done, and the results were bad. I should advise a Porro-Caesarean section in cases in which there is a contracted pelvis and in which it is possible to show the impossibility of otherwise getting a living child. As for symphysiotomy, sometimes the results are not good, and the patient may not be able to walk afterward. In view of DOCTOR CARSTENS' experience I should incline to the Porro operation, especially when there has been a good deal of bruising of soft parts during the labor, and the possibility of sepsis is present. Yet if it is known to be an aseptic case, and a Caesarean operation would relieve, it would be advisable. As to the student case. If he was satisfied that the woman was dead, and he had witnesses, he would be justified in performing the operation.

DOCTOR WARREN: I assisted at one symphysiotomy case in which the whole operation and recovery were uneventful except for a slight hemorrhage from some of the veins. In this case by the operation one and one-eighth inches were gained in diameter of pelvis. Recovery was complete in six weeks, and in six months no sign of trouble with gait was visible.

DOCTOR W. R. PARKER: I saw DOCTOR THURSTON, of Philadelphia, do a Porro-Caesarean section in twenty-five minutes. Both patients lived, and no complications presented.

DOCTOR CHITTICK: If I had a case, I should call in some man experienced in such work. The operation would be done oftener if we had better obstetricians who could recognize the need in time. If the patient in the case of DOCTOR AARON'S was a Roman Catholic and a priest had been present, he would himself have done the Caesarean section and baptized the child. If it was a question of saving mother, or child, he would save the child if it had not been baptized. If satisfied that the woman was dead, the student was justified in opening the abdomen. The physician is always justified in baptizing babies in cases of need in Roman Catholic families.

DOCTOR CARSTENS: I have not much to add. All centers around the point—Do not be too late when you have a narrow pelvis. Every doctor should be able to tell when a pelvis is so small that the passage of a viable child through it is impossible. If we have simply a small pelvis, Caesarean section is the proper procedure, but after sepsis is probably present, the operation becomes a question of whether to remove the uterus or not. The point raised by DOCTOR AARON is not often involved, since it is almost impossible for a doctor to reach the patient in time. Ordinarily, there is not much chance for the baby after the mother has been dead three and one-half minutes, and after the lapse of fifteen or twenty minutes the chance is *nil.*

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, DECEMBER 23, 1897.

THE PRESIDENT, LOUIS E. MAIRE, M. D., IN THE CHAIR.
REPORTED BY J. H. SANDERSON, M. D., SECRETARY.

DISCUSSION.

DOCTOR FRITZ MAASS read a paper entitled "The Toxin and Serum Treatment of Inoperable Tumors." (See page 68.)

DOCTOR F. W. MANN: Six years ago I treated by this method, perhaps the first case to be treated in this way in Detroit. It was not successful. Since then DOCTOR COLEY has changed the serum by the addition of the bacillus prodigiosus. I do not consider it a very hopeful line of treatment.

DOCTOR G. BLECH: I was in Chicago about two weeks ago and saw several cases of inoperable tumor. The treatment is not usual there. •

DOCTOR POLOZKER: I recently saw several cases at Saint Mary's Polyclinic, treated by this method. In one case, that of a lady, death occurred on the day following an injection of the serum, apparently as a result. I read of two cases lately, occurring in the practice of DOCTOR MOULLIN, which were cured by the method.

DOCTOR K. GUNSOLUS: I have never used this method, but I have lately noticed the use of injections of absolute alcohol in carcinoma with good results.

EDITORIAL ARTICLES.

OUR ATTITUDE TOWARD TUBERCULOSIS.

RESOLVED, That it is the sentiment of this meeting that it is unnecessary and inadvisable to placard, isolate, or in any way make public the fact that any person has consumption; but that it would be advisable to educate the public through the physicians by suitable literature from the Board of Health.

The above resolution was passed at a recent meeting of a small but representative body of Detroit physicians and commends their action to all lovers of humanity. Unfortunately, however, the immensely important matter of the prevention or even the control of tuberculosis is not thereby substantially disposed of. The adoption of some practicable and permissible measures that will have a materially restraining influence upon the spread of consumption is not guaranteed. The relegation of the subject to the great mass of physicians again divides the responsibility, the result of which will be that in which "everybody's business is nobody's business."

The discussion at this meeting and at the recent sanitary convention indicates a hesitancy due apparently to a want of more definite knowledge. It is true there are questions still unanswered concerning the resistance and susceptibility of the body to disease. There are causes and effects of which we have never even dreamed. There are forms and manifestations of microbic life that surround us and yet are beyond our ken. There are hidden characteristics of even the most familiar germs. These are elements that unavoidably perplex and retard efforts at progress in sanitation, and yet we are even now in possession of sufficient data to warrant some decided action. It is not necessary to confine a typhoid fever patient within the closed doors of a hospital to prevent the spread of this disease. We are not yet acquainted with the full life history of EBERTH's bacillus, and yet knowing the means by which infection spreads, and taking advantage of the measures by which it may be avoided, we have become superior and masters of it. As implied above, our knowledge of the tubercle bacillus is still incomplete and yet research has already demonstrated sufficient facts to justify concerted action.

It is well known that tuberculous material inhaled, ingested or inoculated into animals will convey the disease. Tuberculosis sputum is the most common and most potent of all forms of infective material. Contrary to the opinion of some bacteriologists, the tubercle bacillus can be cultivated outside of the body under conditions of an impure soil, impure air and in the absence of light, at a temperature of 20° centigrade. Tuberculosis is more prevalent in the crowded, unhygienic portions of the larger cities. Statistics from various sources indicate the effect of poor ventilation, the absence of sunlight, imperfect drainage and emanations from badly drained impervious soil upon the great mortality from phthisis. With these facts as a foundation is not some action possible, necessary and advisable?

Reasoning from analogy between this disease and typhoid fever, the similarity of which in many respects is very marked, the voiding of the loathsome excretions from the lungs of phthisical patients may reasonably be more guarded and controlled. The sanitary conditions in theatres, churches, all assembly halls, factories, all places where work people congregate, cars and closed vehicles of all kinds and a large percentage of our dwellings, with special reference to the admission of sunlight, the purification of the air, the drainage of the subsoil and the provision of dry basements and damp proof courses may be more rigidly inspected and improved to the promotion of human happiness and the saving of innumerable lives. As has been frequently remarked, the willingness and attempt of many patients, especially the more intelligent, to guard against reinfection and the infecting of others will respond to instruction by the physician. It must be remembered, however, that by far the greatest mortality from tuberculosis exists among the working classes. Many of these, owing to their condition of life, the want of means or of will to take precautions do need assistance. The kind of help required will vary and may be determined by experience. The example set by the Board of Health of New York City in hospital isolation and provision for certain cases, although an experiment, is nevertheless worthy of being followed in our own metropolis and elsewhere in the warfare against the "Grim Reaper," of one seventh of our population.

ANNOTATIONS.

MEDICAL COLLEGES AND THE PRACTICE OF MEDICINE IN THE UNITED STATES.

According to a recent issue by Doctor William T. Slayton, on "Medical Education and Registration in the United States and Canada," there are one hundred and fifty-four medical schools in this country. One hundred and seventeen of these require attendance on four regular sessions. In twenty-seven the sessions are eight months long; in ten nine months long. Twenty-nine states and the District of Columbia admit to practice on passing an examination. Eighteen require in addition a diploma from a reputable medical college. Five states, including Kansas, Michigan, Nevada, Vermont and Wyoming and Alaska have practically no laws controlling the practice of medicine.

ANOTHER ANTIVIVISECTION BILL.

The failure to obtain favorable action on previous antivivisection bills has not seemingly checked the ardor of the Washington Humane Society. Another bill, Senate bill 1063, has been authorized by them and reported unanimously by the Committee of the District of Columbia. The impression is given by the advocates of the bill that it will not interfere with scientific investigation and is intended merely to correct alleged abuses. Notwithstanding that a law relating to cruelty to animals already exists in the District of Columbia specific instances of abuse are not forthcoming. In view of this and the history of this subject in Great Britain it is believed that no compromise short of total abolition of experimentation upon animals will ultimately satisfy their demands. The effect of such a law can hardly be appreciated. The influence of this bill, if unfortunately it should pass, upon legislation in the several states is a matter of widespread concern. It is to be hoped that every medical practitioner and every person interested in the progress of medicine will use every proper means to prevent such a disaster.

GENERAL ANESTHETICS.

The frequency of the recently noted reports of deaths from chloroform and ether anesthesia suggests the advisability of a more general use of nitrous oxide gas. Herbert J. Paterson, senior assistant anesthetist, Saint Bartholomew's Hospital, in a recent number of the *British Medical Journal*, states that he has given the "pure gas, with occasional breaths of air, for periods of over ten minutes in nearly two hundred cases, the longest administration in the series lasting fifty minutes." Gas mixed with oxygen he has given "for periods varying from fifteen to sixty-five minutes in nearly one hundred and fifty cases." These operations are said to have included radical cure of hernia and hydrocele, Syme's amputation, amputation of the leg, trephining of long bones and many others of minor degree. The youngest patient was fifteen months old, the oldest a man of seventy-four years. The admixture of oxygen with nitrous oxide was considered preferable to the pure gas. The anesthesia was declared to be generally smooth and quiet, and, even in the cases of heavy smokers and heavy drinkers, in which there was some struggling, this often subsided in four or five minutes. Aside from vomiting following prolonged anesthesia the after effects are much superior to ether and chloroform. The nausea is soon over and the patients are reported as recovering their usual condition after five or ten minutes.

A NEW HEALTH OFFICER AT DETROIT.

At at meeting of the Board of Health of Detroit held February 15, 1898, the resignation of **Doctor Samuel P. Duffield** as health officer was accepted and **Doctor Heneage Gibbes** of Ann Arbor was elected to the position. **Doctor Duffield** has made a capable and faithful sanitarian and retires carrying with him the good will of the profession and the people generally. With a similar general good feeling on the part of all concerned **Doctor Gibbes** enters upon his new duties.

A NEW METHOD OF GASTRO-INTESTINAL DIAGNOSIS.

One of the newer applications of skiagraphy was recently described by **Doctors Boas** and **Levy-Dorn**, of Berlin. It consists in the use of a gelatin coated capsule containing metallic bismuth, the opacity of which renders its course through the alimentary canal discernible by the agency of the **Roentgen** ray. Stenosis at the pyloric or ileo-cecal valves or at any other obstructed point would be indicated by the delayed passage of the capsule, which under normal conditions is passed in from two to six days. As the gelatin coating is insoluble in the digestive juices, it is proposed, in cases of obstruction, to use certain chemical agents which shall dissolve it. The lack of any more direct means of observation of the intestines and the almost fruitless use of solutions and probes in the stomach make welcome this new method of diagnosis.

CONTEMPORARY.

JOURNALISM, THE PHYSICIAN AND THE PHARMACIST.

[THE JOURNAL OF MEDICINE AND SCIENCE.]

The relations of those who carry on the work necessary to publish a good medical journal, those who devote their time and skill to the practice of medicine, and those who spend their time and money in preparing and presenting remedies of merit to be used in the treatment of the various diseases and conditions of the system are one of mutual dependence.

They occupy distinct fields of labor but each receives substantial aid from the other. The journalist must have papers on subjects of interest and value to his readers, in order to make his publication acceptable to them, and in medical journalism he must depend largely upon physicians for this support. He must also have advertisements in order to assist him in defraying the expenses, for it is universally admitted that no publication can maintain itself without assistance from advertisers.

If physicians would discriminate and use those remedies of pharmacists who spare neither time nor money to obtain the best results possible and then make them known through the medical journals of the country, it would be recognition of the assistance these houses render to journalism and the medical profession generally.

The physician should support such pharmacists in preference to those who ignore the medical journals and deluge the mails and his office with letters, essays and samples.

It would be much better for all concerned if physicians would recognize more the competency of the local apothecary and only select the manufactured products of those houses which have placed the best that the laboratory could produce at their disposal and have *constantly* made it known in the columns of the medical journals of the country.

It would be for the interest of journalism, the physician and both to the local and manufacturing pharmacists, for the physician to inquire of the solicitor of every new house, how long they have been doing business and what methods they practice in making their remedies known. If they have not shown interest or confidence enough in the medical journals of the country to make known their preparations in their columns they are certainly unworthy of patronage, for every progressive physician of to-day takes and reads medical journals and ought to expect to find all remedies of value to him announced within their columns.

ETHICAL OBLIQUITY.

[THE CLEVELAND MEDICAL GAZETTE.]

THE most insidious quackery is not outside of the profession. The most culpable writers of testimonials to patent medicines are not the clergymen. They are medical men who, while they may have a fair degree of mental astuteness, or may have improved good opportunities for education, and may hold prominent positions, have a certain bias in their moral faculties which allows them to twist themselves about, in stating scientific opinions, in a way which opens their pocket on the side next to the appreciative manufacturer. You read in a medical journal an article which purports to be purely scientific, or you listen to a lecture from one you have been led to suppose devoted to the study and elucidation of medical truth, and by and by you preceive that science is being juggled with to produce certain illusions.

AWAKENING FROM ITS LETHARGY.

[THE AMERICAN GYNECOLOGICAL AND OBSTETRICAL JOURNAL.]

THE profession is beginning to realize its long bondage to lay publishers and its complete dependence hitherto upon the good will of these men for its mental pabulum and is awakening to the fact that it has for many long years been pouring its money into the pockets of those who cared nothing for its aims, its needs or its advancement but who merely exploited it as a commercial enterprise. If the money spent by physicians in the past twenty or thirty years on medical literature, which has enriched the leading lay publishing firms of medical works in this country, had been retained within professional influence and been expended in the interest of the profession, we would today have the greatest and most powerful medical press in the world and the profession would be a great, influential and united body of men, ably defending itself and capable of expressing its will and upholding its rights through the voice of that power which is greater than any other in this Commonwealth—"the Maker of public opinion."

MEDICAL NEWS.

THE DETROIT MEETING OF THE STATE SOCIETY.

The thirty-third annual meeting of the Michigan State Medical Society will be held in Detroit on Thursday and Friday, May 5 and 6, 1898. The announcement has recently been issued by the Secretary, Doctor Johnston, and promises a program of exceeding interest. In addition to the usual annual addresses, Surgeon-General George M. Sternberg, President of the American Medical Association, is expected to address the society. The question of "Septic Diseases of the Abdomen and Pelvis" will be considered in the afternoon of the first day by a joint meeting of the three sections, and the reading and discussion of papers in the sections will occur on the second day. Indications prophesy a successful meeting. Many prominent members of the profession have signified their intention of participating in the proceedings, and assurances have been received that the attendance will be exceptionally large. Let this be the largest medical gathering in the history of Michigan. Detroit extends a hearty welcome.

AN EFFECT OF MEDICAL LEGISLATION.

Doctor Charles A. L. Reed, a member of the Ohio State Medical Examining Board, lately rendered a report of the workings of the medical law of that commonwealth. He cites that seven thousand four hundred physicians qualified by registering, and that this requirement has driven nine hundred and sixty from the profession—about one in eight of the whole number. Most of these have migrated to more congenial fields. Among the nearly eight hundred practitioners in Hamilton county eighty-four were disqualified. Twenty-four of these are under indictment and more than fifty have disappeared from the state. Is it not possible for the people and the profession in Michigan to enact a medical law that will protect them? Let every reputable physician in the state become interested in this matter to the extent of discouraging the nomination of candidates for the next legislature who decline to promise support to the passage of a just medical law.

THE DEMISE OF DOCTOR PARVIN.

Theophilus Parvin, M. D., LL.D., professor of obstetrics and gynecology in the Jefferson Medical College, departed this life at his Philadelphia home on January 29. The doctor was born in Buenos Ayres, Argentine Republic, on January 9, 1829, his father being a missionary in that country at the time. His early education was acquired in Philadelphia and Indianapolis, and a course in the University of Indiana completed his literary training. He obtained his medical degree from the University of Pennsylvania in 1852, and practiced for a time at Indianapolis. Later he accepted the surgeoncy on a line of sailing packets plying between Philadelphia and Liverpool. His connection with Jefferson Medical College, in the capacity mentioned, began in 1883, prior to which he occupied chairs successively in the Ohio State Medical College, the University of Louisville, and the Indianapolis Medical College. Doctor Parvin long ago became an authority of international repute in his chosen specialty. His life-work leaves an impress on the medical profession of student, teacher, author and scholar.

THE MOBILE SANITARY MEETING.

A SANITARY convention was held at Mobile, Alabama, on the 9th, 10th and 11th instant. The call was for a convention representative of the South Atlantic and Gulf States, but delegates from other states materialized at the meeting. A western contemporary pronounces it "the most important sanitary convention of recent years," while an eastern contemporary regretfully concludes "that it was largely devoted to medical politics." From the point of view of the central north the exact nature of the meeting appeared somewhat obscure to the naked eye, but by the aid of a Roentgen apparatus sufficient light was exerted upon the deliberations to reflect the subjoined set of resolutions. *Resolved*, That it is the sense of this convention: (1) That Congress be requested to provide for a department of public health as soon as practicable. (2) That it is the sense of this convention that Congress should enact laws to provide for an efficient maritime quarantine to be uniform and impartial in its application to the different commercial ports of this country, so as to give to no one or more of them undue commercial advantage over the others, and to be enforced by the several State and municipal quarantine or health boards, if they will undertake so to do, leaving also to the States the power to prescribe and enforce additional reasonable safeguards of the health of their communities, provided that such state action shall not unreasonably obstruct commerce. (3) That Congress should aid the several States in establishing and maintaining uniform, reasonable and efficient quarantine laws for affecting but not regulating interstate commerce, leaving to each State adequate power to protect as it shall deem best the lives and health of its people. (4) That Congress should leave exclusively to the States the regulation of their purely internal commerce and the providing of such quarantine and sanitary law regulations as they may deem advisable to that end. (5) That in the framing of quarantine laws and regulations, and in their enforcement, Congress should avail itself of the learning, experience and ability of the medical profession in the fullest measure possible, and especially by way of an advisory council.

A LAW TO REGULATE THE SALE OF COCAINE.

THE people of Illinois have resolved to prohibit the indiscriminate dispensing of cocaine. Their determination has materialized in the nature of the following law recently enacted by the legislature of that commonwealth: *Section 1.*—Be it enacted by the people of the State of Illinois, represented by the general assembly, it shall not be lawful for any druggist or other person to retail or sell or give away any cocaine hydrochlorate or other salt of or any compound of cocaine or preparation containing cocaine, or any salts of or any compound thereof, excepting on the written prescription of a licensed physician or licensed dentist, licensed under the laws of the State, which prescription shall only be filled once; provided, that the provisions of this section shall not apply to sales in the usual quantities at wholesale by any manufacturer or wholesale dealer, when such manufacturer or wholesale dealer shall have affixed to the box, bottle or package containing such cocaine hydrochlorate or other salt or compound of cocaine or preparation containing cocaine a label specifically setting forth the proportion of cocaine contained in any preparation. *Section 2.*—Every person who shall be found guilty of violation of the provisions of this act shall, for the first offence, be fined a sum not less than ten dollars, nor more than fifty dollars, and for each subsequent offense not less than fifteen dollars, nor more than two hundred dollars, or imprisonment in the county jail, not exceeding thirty days, or either or both, in the discretion of the court.

THE REGULATION OF MARRIAGE.

THE regulation of marriage is contemplated in a bill which has been introduced in the legislature of Ohio by Representative Parker. This unique measure provides that all persons about to consummate a matrimonial alliance shall be examined by a board of three physicians—to be appointed by each county probate judge—for the purpose of determining their eligibility for the nuptial rites as regards freedom from insanity, dipsomania, tuberculosis, cancer, criminality, veneral and other hereditary morbidities. *The Cleveland Journal of Medicine* is opposed to the passage of this bill for the following sensible reasons: "No fact in biology is now better established than that the defective members of society tend naturally to sterility and extinction. Did our criminal and infirm depend upon self-propagation for successors we would never hear any more of the increase of disease, crime and insanity. It is the falling into these classes, from all other ranks of society, of those unfit for the struggle for existence which accounts for the increase of defectives. It is proper to treat them humanely, as is the present tendency of society, but nevertheless, broadly speaking, they are simply the lower branches of the social forest which fail to reach the sunlight of race progress, and under inexorable natural law degenerate, fall to the ground and finally become lost in the mould lying by the wayside of advancing evolution. There is something sinster in the records of all our lawmaking bodies of recent years in the great number of bills proposed and passed which aim to reform man's body and mind by human statute. It is all a distinct sign of degeneration, of reversion to the days of the savage, when the individual was hampered at every step by precise and inviolable rules of procedure, founded, it is true, in superstition, but clearly showing that social evolution is always away from the communistic and toward the freedom of the individual. In the present state of our knowledge, of our social organization, and especially of our politics, it would be the height of folly and unwisdom to enact such a statute. The weapon of true progress is always education, rarely statute." Other journals are divided in their opinions regarding the advisability and practicability of such a law.

MINOR INTELLIGENCE.

THE American Medico-Psychological Association will hold its forty-fourth annual meeting in Saint Louis, Missouri, commencing May 10, 1898, and continuing until May 13 inclusive. The committee have made arrangements for the accommodation of visiting members at the Southern Hotel, where all meetings of the association will be held.

THE Milwaukee Medical Society recently elected the following officers for the ensuing year: President, Doctor F. E. Walbridge; first vicepresident, Doctor A. I. Comfort; second vicepresident, Doctor John Madden; secretary, Doctor Gilbert E. Seaman; treasurer, Doctor U. O. B. Wingate; librarian, Doctor Louis F. Frank; curator, Doctor Arthur J. Patek.

BERLIN University now has 5,921 students, the largest number in the history of that institution. The study of medicine attracts 1,291; law, 2,000; philosophy, 2,182; theology, 448. The number of medical students cited may be augmented by the addition of 268 pupils of the Army Medical School. The latter pursue the same medical curriculum as the former.

GOVERNOR FOSTER, of Louisiana, appointed the new State Board of Health for that commonwealth on the 24th ultimo. The board is constituted of medical and business men, and comprises the following: Doctors Edmond Souchon, L. F. Reynaud, Luther Sexton, J. J. Castellanos, and H. S. Lewis, and Messrs. Stanley O. Thomas, J. D. Hill, John W. Castles, and Jules C. Denis.

DOCTOR JULES EMILE PEAN, the distinguished French surgeon, recently died in Paris, aged sixty-eight years. He had been identified with the medical profession for nearly a half century, and occupied positions on many hospital staffs. He was greatly respected by the French people and had been honored by numerous positions of public trust which he filled with credit to himself and the profession.

DURING January twenty-two dairies were visited by State Dairy Inspector Barron. One hundred and eighty-nine cows were found in sanitary condition and fifty-eight positively dirty. State Analyst Borradaile examined eighty-four samples of food products and found that twenty-six were pure and fifty-eight adulterated. Twenty samples were colored oleomargarine, eight adulterated mustard, and six adulteratad vinegar.

THE relief of overworked drug clerks is contemplated in a bill recently introduced into the New York legislature. The aim of the measure is to prevent mistakes in compounding prescriptions by reason of mental confusion resulting from fatigue. It provides that ten hours shall be a day's work, except on Saturday and Sunday, when twelve and six hours respectively will be permitted. The latter period is also designated for legal holidays.

THE ninety-second annual meeting of the Medical Society of the State of New York was held in Albany on January 25–27. It was decided that the best interests of the society demanded that Albany be the permanent meeting place. The following officers were elected: President, Doctor John O. Roe, of Rochester; vicepresident, Doctor E. F. Brush of Mount Vernon; secretary, Doctor Frederick C. Curtis, of Albany; treasurer, Doctor C. H. Porter, of Albany.

NITROGLYCERINE is being advanced as a reliable agent in the treatment of hemoptysis. Administer one-half drop doses of a one per cent. alcoholic solution every half-hour. Increase the dose if necessary, and prescribe food, if thought advisable, to support the strength of the patient. In hemoptysis two factors are involved—force and resistance. This medicament arrests the hemorrhage by diminishing the resistance.

THE clinical amphitheatre of the University of Michigan recently presented the scene of a wealthy Ann Arbor resident seeking gratuitous medical service on the score of being a taxpayer. The professor in charge emphatically refused to extend the freedom of the clinic to an applicant sufficiently able to pay for private treatment. The faculty and regents, as well as several medical societies of Detroit, sustained the action of the clinician, and the profession of the state supplemented a loud amen!

DOCTOR DAWSON WILLIAMS has been unanimously elected by the council of the British Medical Association to succeed Doctor Ernest Hart as editor of the *British Medical Journal.* The promotion of Doctor Williams to this responsible position is a deserved recognition of the able manner in which he has performed the duties of assistant editor for the past seventeen years. Mr. C. Louis Taylor, who has served on the staff as subeditor for eleven years, accedes to the assistant editorship vacated by Doctor Williams.

DOCTOR BENJAMIN LEE is the new health officer of Philadelphia, having recently been appointed by the Governor to fill the vacancy occasioned by the resignation of Theodore Stulb. Doctor Lee located in Philadelphia in 1866, and at the time of his appointment was secretary of the State Board of Health and of the State Quarantine Board. He has achieved considerable reputation as an orthopedic surgeon, neurologist, and mechanical therapeutist, being the originator of the self-suspension method for treating spinal affections.

THE Obstetrical Society of Cincinnati recently considered the advisability of changing its name to the Obstetrical and Gynecological Society, and also the inclusion of abdominal surgery within the pale of its consideration, but finally rejected both propositions and proceeded to elect the following officers to assume *charge d'affaires* under the existing regime: President, Doctor E. S. McKee; vicepresident, Doctor W. D. Porter; recording secretary, Doctor William Gillespie; corresponding secretary, Doctor M. A. Tate; treasurer, Doctor George A. Jones; librarian, Doctor C. L. Bonifield.

THE Samuel D. Gross prize of the Philadelphia Academy of Medicine will be awarded on January 1, 1898. This is the second quinquennial prize of one thousand dollars, the conditions in the will of the testator specifying that it "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens." Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. They must be written in the English language, and sent to Doctor J. Ewing Mears, 1429 Walnut street, Philadelphia, before January 1, 1900.

Aseptolin, an announcement concerning which may be found in the advertising department of this journal, is a solution containing about 3% of absolute phenol and 0.01% of a new pilocarpin salt (pilocarpin-phenol-hydroxide); formula $C_{11}H_{16}N_2O_2.OH.C_6H_5$. It is a fluid designed mainly for hypodermic use, but may also be used by the rectum. It is claimed that when this medicament is properly injected into the subcutaneous tissues little or no irritation follows, and there is consequently no danger of such an abscess as frequently results from the hypodermatic injection of other fluids. The therapeutic effect claimed for aseptolin is to greatly reinforce and increase the natural antiseptic power of the blood.

A Chicago court recently had to deal with a damage suit involving a decidedly novel question. A pregnant woman entered a lying-in hospital about four hours prior to her confinement. During elevator transit she encountered an accident whereby her unborn child sustained permanent injury. Subsequently this child became plaintiff in a suit to recover damages. The legal question presenting for solution "was whether a child, after it is born, has a right of action for injuries sustained by it *en ventre sa mere;* in other words, whether a child unborn is a person in being, so as to be entitled after birth to maintain such an action." The court held that the plaintiff was eligible for action and rendered a decision in the affirmative.

The medical staff of Harper Hospital for the ensuing year consists of the following: Consulting Surgeons—Theodore A. McGraw, M. D.; E. T. Tappey, M. D. Attending Surgeons—Daniel LaFerté, M. D.; H. O. Walker, M. D.; J. K. Gailey, M. D. Junior Surgeons—Angus McLean, M. D.; Benjamin P. Brodie, M. D.; F. B. Tibbals, M. D.; P. M. Hickey, M. D. Consulting Physicians—Charles Douglas, M. D.; J. J. Mulheron, M. D. Attending Physicians—George Duffield, M. D.; C. G. Jennings, M. D.; W. R. Chittick, M. D.; F. W. Mann, M. D. Consulting Oculists—L. Connor, M. D.; George E. Frothingham, M. D. Attending Oculists—George E. Frothingham, Junior, M. D.; Don. M. Campbell, M. D. Consulting Neurologist—David Inglis, M. D. Attending Neurologists—J. E. Emerson, M. D.; C. W. Hitchcock, M. D. Dermatologist—A. E. Carrier, M. D. Laryngologist—E. L. Shurly, M. D. Consulting Gynecologist—Helen F. Warner, M. D. Attending Gynecologists—H. W. Longyear, M. D.; Harriet A. Gerry, M. D.; W. P. Manton, M. D.; J. H. Carstens, M. D. Microscopist—E. H. Sargent, M. D. Assistant Microscopist—Thaddeus H. Walker, M. D. Pathologist and Curator —E. H. Troy, M. D.

RECENT PUBLICATIONS.

REVIEWS.

ORTHOPEDIC SURGERY.*

The success of a book does not depend solely upon original subject matter. It is essential, however, that the author possess a most thorough knowledge of the subject. The treatment of it should be individual and original. Doctor Moore's experience has enabled him to meet these requirements. He has handled the subject concisely, discriminately and in a lucid and interesting manner. It is gratifying also to note several original plates.

*By James E. Moore, M. D., Professor of Orthopedics and Adjunct Professor of Clinical Surgery, College of Medicine and Surgery, University of Minnesota. Octavo volume of 356 pages, handsomely illustrated. Cloth, $2.50 net.

INCOMPATIBILITIES IN PRESCRIPTIONS.*

The matter of this book is disposed in three parts. Part I consists of the several remedial drugs alphabetically arranged and under each its incompatibles with the reasons therefor. Part II is a list of more than three hundred prescriptions containing incompatible drugs, the incompatibilities of which are explained in part III. Reference indexes are also appended. The work is specially adapted to the needs of students and practitioners of pharmacy and medicine.

*By Edsel A. Ruddiman, Ph. M., M. D., Adjunct Professor of Pharmacy and Materia Medica in Vanderbilt University. New York: John Wiley & Sons, 1897. $2.00.

ELEMENTS OF LATIN.*

Beginning students of medicine and pharmacy, who have not had the advantage of a classical education, have always been greatly handicapped. The introductory lessons in Latin as used in the schools have been more often confusing and silly than really helpful to them. This work presents the elements of medical and pharmaceutical Latin in a simple and attractive form. The exercises consist of desirable knowledge. The chapter on prescription writing is alone worth the price of the book to many an older practitioner.

*By George D. Crothers, A. M., M. D., Teacher of Latin and Greek in the Saint Joseph (Missouri) High School; Formerly Professor of Latin and Greek in the University of Omaha; and Hiram H. Bice, A. M., Instructor in Latin and Greek in the Boys' High School of New York City. 5¼x7½ inches. Pages xii–242. Flexible cloth, $1.25 net. The F. A. Davis Company, Publishers, 1914–16 Cherry street, Philadelphia; 117 West Forty-Second street, New York City; 9 Lakeside Building, 218–220 South Clark street, Chicago, Illinois.

OUTLINES OF RURAL HYGIENE.*

The neglect of hygienic measures is a significant commentary not on the value of sanitary science but rather on our ignorance of it. The intent of Doctor Bashore in this little book is to set forth in very brief the most important underlying principles of sanitary dwellings, water supply, drainage, soil, waste disposal and disposal of the dead in rural districts. The work is well adapted to its purpose.

*By Harvey B. Bashore, M. D., Inspector for the State Board of Health of Pennsylvania. With an Appendix on "The Normal Distribution of Chlorine" by Professor Herbert E. Smith, of Yale University. Illustrated with twenty engravings. 5½x8 inches. Pages vi–84. Extra cloth, 75 cents net. The F. A. Davis Company, Publishers, 1914–16 Cherry street, Philadelphia; 117 West Forty-Second street, New York City; 9 Lakeside Building, 218–220 South Clark street, Chicago, Illinois.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

THE NOBILITY OF THE MEDICAL PROFESSION.*

By CHARLES W. HITCHCOCK, A. M., M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

"How blest is he who knows no meaner strife
"Than Art's long battle with the foes of life.
"No doubt assails him, doing still his best,
"And trusting kindly Nature for the rest;
"No mocking conscience tears the thin disguise
"That wraps his breast and tells him that he lies.

* * * * * * * *

"No safeguard his: no amulet he wears,
"Too well he knows that Nature never spares
"Her truest servant, powerless to defend
"From her own weapons her unshrinking friend.
"He braves the fate the bravest well might shun
"Nor asks reward save only Heaven's 'Well done.'"

So sang the beloved Holmes, ornament of our profession as well as of American literature. He appreciated the nobility of our work and his words have aptly beautified the noble, humble task which is yours and mine.

Inasmuch as custom has ordained that you shall, for a brief period, be the victims of the caprice of your retiring president, I beg your indulgence while we discuss some ethical phases of the profession, perhaps deplore the degeneracy of the present day, which leads too frequently and too much away from that which is highest and best in our art. Yet I would not be thought a pessimist, given over to vain gloryings in the times that are gone, indifferent to the magnificent progress of the present day, the glorious advances which crowd upon us with the coming of every year; but this is too much a commercial age, and too little, I sometimes think, do we realize that dollars cannot measure that which is best in life. The mighty dollar is potent and we can none of us afford to despise it; but heaven forbid that, unconsciously perhaps, we should establish so sordid a standard of judgment that we measure our brother's success in the profession by the gold which he accumulates, and yet that is exactly what we are prone to do. You and I know many whose incomes we, perhaps, envy, but if forced to the alternative of changing places and abandoning high ideals, none of you here, unless I am much mistaken, would deliberately make the change. The glamour of gold should not blind our eyes to the fact that there are better things and that it is comparatively seldom that the largest income comes to the best man in the profession.

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*The annual address of the retiring president of the Detroit Academy of Medicine, delivered October 12, 1897.

There is nothing in the world about which people, even of unusual intelligence and refinement in other things, are so strangely credulous as *medicine*. The palavering charlatan, concealing his ignorance 'neath the appearance of great wisdom and drowning the reverberations of his own lack of sense with high-sounding and smooth phrases, too frequently insinuates himself into so-called "best families" and is received as the much-prized medical adviser of polite circles, where better sense and greater knowledge would be in far better keeping. Too often the well-read and well-informed are deceived by that silliest of absurdities, the claim that their idol "is a graduate of both schools" and practices homeopathy and rational medicine at one and the same time. All plans of treatment are molded here into one so superior and unique as to make its advocate at once the pampered idol upon whose shrine society's darlings hasten to pour their yellow gold.

Hardly less devoid of just and proper sense of the nobility of our profession is he, who (whether of regular or other school I care not) is constantly trying to impress his patients with an unjust sense of his own great wisdom and importance. A trivial ailment is by him magnified into something alarming and which, he gravely assures the terrified patient, demands the most skillful and delicate treatment. When some severe, though temporary, illness occurs, the patient is invariably told of how happy it is that his attendance was so soon secured and death fortunately thus averted. Such a man cheapens himself, makes a fool of his patient, and is false to any decent ideals of his profession. He may deceive for a time, but he is sure to be found out sooner or later. Faith in himself so built up will surely be some day rudely shattered. But such wanderings from the path of decency and real uprightness, are, of course, in no sense peculiar to the present day. Their history is as old as that of the profession.

Cheaper still is the grossly ignorant and the poorly educated medical shyster whose o'erweening conceit hesitates at nothing. There is no operation in surgery he will not undertake, nothing he will not attempt. He more frequently takes his victims from the common people, people less educated than he, whom he can easily deceive, and upon whose credulity he can play. We know men of this stamp whose practice is extensive, victims many, and income large.

"But what can we do?" you ask. Not much, perhaps, but let us be true to high ideals, to noble conceptions of the mission of the profession. Let us cultivate the feeling in every way we can that the best standards of the profession are, and must be kept, high. In our medical schools, let us foster the spirit of advancing standards of requirements. I believe that much, of late years, has been thus accomplished. Let us do all that in us lies to assist in such an elevation of educational standards that it will be impossible for any ignorant pretender to legitimately receive the degree of Doctor of Medicine. Not only must standards be established, but schools must be made to live strictly and rigidly up to standards already established and any school false to its high standard, for motives of gain or profit, should receive the same obloquy that we justly attach to the charlatan. High ideals constantly cherished and kept ever before us will do much to purify the professional atmosphere and to generate an invigorating educational oxygen. HOLMES was not blind to the ignoble side of our professional life, he was not dazzled by any glamour which drove his pen to write alone of the higher and better things, for he wrote:

> "Hardest of all, when Art has done her best,
> "To find the cuckoo brooding in her nest;
> "The shrewd adventurer, fresh from parts unknown,
> "Kills off the patients Science thought her own;
> "Towns from a nostrum-vender get their name,
> "Fences and walls the cure-all drug proclaim,
> "Plasters and pads the willing world beguile,
> "Fair Lydia greets us with astringent smile,
> "Munchausen's fellow-countryman unlocks
> "His new Pandora's globule-holding box,
> "And as King George inquired with puzzled grin
> "'How,—how the devil got the apple in?'
> "So we ask how, with wonder-opening eyes,
> "Such pygmy pills can hold such giant lies?"

Hardly less false to worthy ideals is the plausible advertiser, he, who recognizes fully this right of the trades denied by common consent to the professions, —this mutual compact which distinguishes the commercial from the professional man,—hardly less false, I say, is the man who, professing allegiance to ethical standards, seeks every opportunity to get his name in print and before the public. Every operation is artlessly (of course) described to the eager reporter and the distinguished operator appears in print after almost every use of his instruments.

It is well, of course, and legitimate, indeed of advantage to all, that the profession should know, through papers and discussions, of the special work which each one is doing. These are our legitimate means of advancement; but I deplore the too frequent papers which contain nothing new and seem to be for advertising purposes, pure and simple. It seems to me that it should be plainly said that any publishing or exhibition of one's work, which is not solely for educational or scientific interest, which is done from commercial motives and for purposes of gaining patients, springs from an unworthy motive, is the child of low ideals, and deserves the hearty condemnation of this Academy.

The marvellous development of all fields of professional knowledge has made the specialist in many lines a necessity. All honor to the studious and well-qualified specialists for their admirable scientific work. With them the word "specialist" has some adequate meaning. It signifies one made competent by years of patient toil and study to confine himself exclusively to a special line of work.

How nauseous and disgusting a thing, in comparison, is the mushroom specialist of the present day, the growth of a night. Usually youthful and more enthusiastic than wise, of no special experience in any line of practice, he hies away to foreign clinics, while zealous friends at home through the newspapers keep the credulous public advised of all the movements of this newest prodigy. He is gone from home from one to three months, and in exceptional cases six months elapse before the public prints herald the arrival home of this full-fledged specialist, who immediately "speaks as one having authority", is anxious to teach those in the profession old enough to be his father, and pompously and ostentatiously refers to his already large experience. From the moment of his arrival at home, he is busy, very busy, in the preparation of many papers, no one of which contains a new idea but simply rehearses the work done at foreign clinics, of which his reading friends have been already thoroughly informed through the current journals. These papers are democratic in character, for they are "for revenue only", written purely from commercial motives, of not the least scientific or professional value. They quickly find the wastebasket of the student and claim the serious attention of the gullible only. How ignoble, how base, how unworthy, how contemptible the whole professional attitude of such an one! What a travesty upon what a specialist should be to entitle him to the respect of his professional brethren. As if six months could make a competent specialist in any line!!! God pity the specialist so made and have mercy upon his unfortunate victims!

Low ideals and low standards, an utterly ignoble conception of our profession, only, can make such things possible and yet these things are daily flaunted under our noses. Such an one becomes, of course, indifferent to every ethical standard or consideration. And here I cannot forbear to put forth a plea for the much-abused code. It is too common a thing to decry its limitations, to belittle its sentiment, and to assert a free and easy independence of all such things as codes. Whatever criticisms may be justly passed, we do well not to be rashly superior, and it is wise to recall that our membership here carries with it our endorsement of this much-despised Code of Ethics. I think it were well if each one of us, at least once a year, were to read, from beginning to end, this choice bit of professional literature. However unnecessary we may deem any expression of sentiments as to the duties of patients to their physicians, we cannot forbear to note and admire the lofty conceptions of professional duty and worth, the choice English in which all is couched, and the noble spirit which breathes through every section. How refreshing it would be, could we see a more rigid observance of such regard of the rights of others as is here enjoined, an enjoinder too frequently scoffed at as unnecessary.

Within the past year, I encountered a physician going to see professionally a patient whom he knew I was attending, while another member of the profession, who had been casually called in consultation in one of my cases, through the zealous urging of an officious friend of his, actually attempted, unbeknown to me, a postmortem examination upon the patient who had been mine, until death, the inevitable ending of his disease, came. Think you not that such men would do well to absorb even an inkling of the spirit of our Code of Ethics?

I tel[illegible], gentlemen, we dismiss too lightly, as a high-sounding phrase intended for others, the beautiful injunction to do unto others as we would that others should do unto us. Yet this motive must actuate the perfect gentleman and, above all, the Christian physician. This sentiment is the foundation of our code, which stands because built on such a noble, yet simple doctrine.

Our life is not altogether an easy one, and here again **Holmes** comes to my aid when he says:

"No life-long aim with steadfast eye pursued
"Finds a smooth pathway all with roses strewed;
"Trouble belongs to man of woman born,—
"Tread where he may, his foot will find its thorn",—

but a kindly, courteous spirit, attention to the amenities of life, a kindly regard for others' rights, a not seldom putting one's self in another's place will lessen the sting of many a thorn, smooth the pathway of many an earnest brother, make of him a friend, and go far toward enhancing those cordial and genial relations which should be more common than they are. Just as we cannot hold too high an ideal as to what constitutes a gentleman, we can hardly have too lofty a conception of the man who is to represent the best type of physician.

Let us have it so thoroughly impressed upon us that it shall be a part of us, that *our mission is not a commercial one*, that it is higher and better and, as **Whittier** expressed it,

"The holiest by Heaven decreed,
"An errand all divine,
"The burden of our common need
"To render less is thine."

To be well informed, thoroughly educated, and to keep abreast of professional advancement is but the cloak without which one may not stand and knock at our professional doors. He should not here find admission unless he be high-minded, pure of life, true to high ideals, thoughtful, courteous, kindly, earnest, as well as wise and skillful.

Let us, as members of the Detroit Academy of Medicine, seek to be of such a type, and let us demand such qualifications of all who seek to come into our number. Then, indeed, we may hope to be of real help both to each other and to the professional world without. Then, and not till then may we hope to help—

"Ring out false pride in place and blood
"The civic slander and the spite;
"Ring in the love of truth and right,
"Ring in the common love of good.

"Ring out old shapes of foul disease,
"Ring out the narrowing lust of gold,
"Ring out the thousand wars of old,
"Ring in the thousand years of peace.

"Ring in the valiant man and free,
"The larger heart, the kindlier hand;
"Ring out the darkness of the land,
"Ring in the Christ that is to be."

Tennyson: "In Memoriam."

1 . Henry Street.

MEMOIRS.

GUAIACOL IN THE TREATMENT OF TYPHOID FEVER.*

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In a discussion at a recent meeting of the Detroit Academy of Medicine, where typhoid fever was the subject, I spoke of the use of guaiacol internally as a means of producing intestinal antisepsis, and, when applied externally, as a means of rapidly reducing febrile temperature. As the plan of treatment was new to the members present, I thought the subject worthy of further discussion, and this is my apology for presenting the subject this evening.

Now, as to what this therapeutic agent is: In *Merck's Bulletin*, 1896, I find that liquid guaiacol is extracted from beechwood creosote by fractional distillation. It is a colorless, limpid, oily liquid, having the characteristic aroma of creosote, and its uses are antitubercular, antiseptic, antipyretic and analgesic. Dose, two minims internally.

The Internal Administration of Guaiacol.—Believing that the bowels should be kept as aseptic as possible, I have found that guaiacol accomplishes this condition better than any other one remedy. The dose is usually two minims every two hours, given either in soft elastic capsule or in emulsion. I have never noticed any special antipyretic effect when the medicine is given internally. I give it for its antiseptic properties alone, and I am sure that I accomplish the desired purpose, for the stools are redolent with the characteristic odor, showing that the medicine must have passed the diseased surfaces as guaiacol and rendered the parts aseptic by its presence. In one case noted by McCormick (*The Journal of the American Medical Association*, July 10, 1897), an autopsy was made upon a man who had died from the results of perforation, and the odor of guaiacol, which had been given, was found to be present when the abdomen was opened and also when the intestines were examined, showing that the drug still held its sway as an antiseptic at the ileo-cecal valve. Some stomachs are so irritable that the pure guaiacol cannot be administered. When such cases are met recourse may be had to the carbonate, which is no doubt the next best antiseptic. This may be given in doses of from three to five grains every two or three hours.

This form of guaiacol has been recommended by J. Eliot Woodbridge, and he puts much stress upon its use, combined with other drugs which are less efficient, in my mind, than the pure guaiacol. I have used Woodbridge's method for several years, and believe his plan is successful in producing an aseptic condition of the intestinal tube, but it is slow. No doubt his pioneer efforts have done much in the wider use of intestinal antiseptics, but I believe his plan can be modified so as to produce better effects. Notwithstanding his routinism and "only" tablets (to him) seem the only specific for typhoid fever, "there are others." I do not wish to be misunderstood. I use other medicines besides guaiacol to aid in the production of asepsis. Calomel with or without podophyllin is employed at first every hour or two until the bowels are thoroughly moved and the flow of bile—Nature's antiseptic—is established. Saline waters, as Apenta or Rubinat, increase the action of these drugs and the effect of the guaiacol which is given later is augmented. I believe that the bowels should be kept thoroughly open and four or six movements obtained every twenty-four hours. Irritation of the bowels with saline solutions at blood heat or ice cold, depending upon the condition, has been recommended and in my hands has worked satisfactorily.

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* Read before the Detroit Medical and Library Association.

The External Application of Guaiacol.—My attention was first called to this method of employment when reading the second edition of "SHOEMAKER'S Materia Medica and Therapeutics," page 376: "Guaiacol is readily absorbed by the skin. It has been found that a local application has the power of reducing febrile temperature." In looking up the subject I find that SCIDLA (Cron. d. clin. med. di Genova 1892-1893," page 171-176; *Semaine Medical*, 1893, Number XXI) first pointed out "that pure guaiacol acted as a powerful antipyretic in doses of two to ten grammes when painted on skin of back, limbs and abdomen. In these large doses it is noticed in the urine one hour after it has been applied, and the patient tastes the remedy in fifteen minutes. When the pure drug is applied it never produces any inflammatory conditions of the skin."

The point to be selected for the application is well worthy of a moment's thought. The chest has been the part most often selected, but MCCORMICK, who has probably used the drug oftener than any one else for the reduction of temperature, recommends that it be applied over the ileo-cecal valve, over the seat of the disease. The part to receive the application is first washed thoroughly with soap and warm water. The guaiacol is painted over an area of five or ten square inches, or better, five to twenty minims are dropped upon the skin and gently rubbed in by the attendant for ten minutes, and then the place is covered with cotton wadding and oiled silk. FRIDENWALD and HAYDEN (*The New York Medical Journal*, April 15, 1894) concluded that the dose should not exceed thirty minimus, for often the application is followed by great depression, profuse sweating and sharp chills, or other symptoms of collapse, and they found that the drug has a powerful antipyretic action, and not more than two doses of thirty drops each should be applied in twenty-four hours.

It must be remembered that the effect of guaiacol is the same as of other coal-tar products only it is more powerful, and great care must be exercised in its use. GUINARD (*Province Med.*, Lyon, 1893, Number VII, page 325-328), after making numerous experiments concerning the effect of the local application of guaiacol, concludes that the fall of temperature is due to an effect upon the heat centre in the brain, produced reflexly through the peripheral nerve terminations, and to a slight degree to the inhalation of the vapor of the drug. The effect is more marked in febrile than in nonfebrile cases. DACOSTA (*The Medical News*, January 27, 1894) roports a case of typhoid fever with temperature standing at 105.4° reduced in three hours to 98.6° by one application. He thought the reduction rather slow and where the dose is small was not accompanied by any disturbance of the nervous system. No delirium or depression or sign of collapse followed its use in his hands.

Before the application is made the patient should be placed between woolen blankets. Reaction begins in ten or twenty minutes after the application, the patient breaks out with profuse perspiration, and when the dose has not been large, fifteen to twenty-five minims, no marked depression such as a chill follows. The temperature continues to descend for three or four hours. The pulse grows full and strong, and its rapidity lessens in proportion to the reduction of the temperature; the patient shows no signs of cyanosis, and invariably says he "feels first-class."

It has been noted by nearly all who have applied guaiacol locally, that when the dose has been large and the temperature reduced rapidly (six or more degrees in two hours) that a severe chill followed. I have noticed this phenomenon several times, and for the reason stated the drug as an antipyretic fell into disuse soon after its introduction. McCormick (*The Medical News*, January 19, 1895; *The Journal of the American Medical Association*, July 10, 1897) has probably used the drug oftener than any one else, having applied it locally 1066 times for the reduction of fever. He used it seventy times in one case. He has placed the dose from ten to twenty-five drops. He has learned from its use that it will promptly reduce temperature without weakening the heart muscle.

When the temperature is 104° or more, the best plan is to reduce the temperature to 101° or 100° rather than drop it to normal or below as can easily be done when the dose is thirty minims or more, and thus a chill will be avoided. In one of the charts exhibited you note that the temperature was reduced by thirty drops from 105.4° to 95.8°, nearly 10°, and that a chill followed, lasting forty minutes. On this same chart three chills are noted because of the too rapid reduction of temperature. It was one of the first cases upon which it was used under my direction, and hence was somewhat experimental. Such sudden reduction of temperature would make one apprehensive of causing severe congestion in some of the internal organs, but I have never seen such a complication nor have I found any cases reported.

The antipyretic effect lasts three or four hours, and the oftener it is used the more marked is its effect. Smaller doses and more frequent application can be made when the temperature is high and so the highest fever can be reduced and kept below the danger line. McCormick noted a strange thing—that when the application is made to a man in health whose temperature was normal no reduction of the temperature followed and no unpleasant effects were noticed, nor did the kidneys show any irritation from its use.

The local application is especially useful in all diseases accompanied with high temperature such as pneumonia, rheumatism, tuberculosis and the various fevers. It may be applied whenever the temperature reaches a certain point, say 103°, and the amount should be guaged by the reaction. I have applied it as often as three to five times in twenty-four hours without producing any depression of the vital forces, and the tempurature invariably fell several degrees.

I have noticed that, when guaiacol has been applied frequently for three or four days in cases of typhoid fever, a decided reaction takes place, and the temperature gradually declines and reaches normal at an earlier period than it otherwise would have done. At least this is my conjecture and I think that several of the charts I exhibit bear me out in the assertion.

This treatment can be used with the Woodbridge method to advantage, as something else besides the tablets which are necessarily slow in their action, can be used to reduce high temperature. I think that we can consider the drug a safe antipyretic, when locally applied with due precaution; that when the temperature is not reduced too rapidly no chills or other symptoms arise; that no congestion of the internal organs follows its use; that no local blistering or inflammation is produced where the drug is applied; that it is far superior to the cold bath in the treatment of typhoid fever. It is easy to apply, is safe and efficient.

HOW SHALL WE TREAT THREATENED PUERPERAL CONVULSIONS? A REPORT OF CASES.*

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No matter how accurate or successful may be the management of threatened puerperal convulsions by some of our practitioners, the fact remains that many avoidable cases go on to convulsions and death under our present general treatment. I trust that a discussion of this subject may prove of value if it tends to make clearer and more certain our knowledge of how best to meet successfully these important cases. It is a subject upon which all have had practical experience and can add to our discussion. No matter how specialized the specialist, or minute the portion of anatomy finally selected upon which he is to concentrate his energies, he began practice with a greater or less number of obstetrical cases. It seems to be the one general human necessity that opens the way for the new doctors, consequently all can discuss, with more or less personal knowledge, this subject.

A correct knowledge of the cause or causes of puerperal convulsions would materially aid us in prophylaxis as well as treatment. At present we are in some doubt as to the causes or real conditions which so powerfully affect the organization in the manifestations of this disease. I believe a majority of us hold the broad idea that poisons developed in the tissue metabolism of physiological cell activity, but imperfectly eliminated by the excretory organs, accumulate in the system and set up the phenomena which we term puerperal convulsions or eclampsia. Further, it has been considered by many that owing to the mechanical bulk and consequent pressure upon the vascular or nervous mechanism of the kidneys, they fail to perform their function of eliminating these poisons, permitting them to circulate in the blood and produce the general phenomena. DOCTOR DELAFIELD, foremost among our American pathologists to study this affection, says none of the theories as to the causes of this disease are satisfactory or competent to explain all the phenomena. In cases dying of this disease all conditions of the kidneys have been found, from normal kidneys to acute degenerations, dilatations of the pelvices and ureters and chronic nephritis. He has also found even in young women well marked disease of the cerebral arteries, a point well to remember in considering prophylaxis.

Whether we consider the kidney changes the cause, or as has been considered by some, the effect of the disease it is true, I believe, that the renal secretions first give us warning of the condition of our patient and lead us to consider the necessity of interference in the natural course of labor, whether medicinally or mechanically. If, as has been held by some, the irritation, by an enlarged uterus, of the vasomotor nerves controlling the renal arteries, thereby contracting them and inducing degenerative changes in the kidneys, renders them impotent to excrete the poisons which accumulate and destroy, the renal secretions are still largely our guide to the condition. Another theory is that in some women, late in pregnancy, a toxic substance is produced—not by any deficiency of kidney action but in some unknown way—capable of causing contraction of the arteries, arterial degeneration, acute degeneration of the kidneys and acute nephritis, in fact the same poison that causes the convulsions, cerebral and vascular symptoms. Even should this theory prove true, in the renal secretions we find our most available indications for interference. Nor does this indication prove less true if the theory that acetone or other deficient hepatic metabolism or so-called "liver of pregnancy" precede the "kidney of pregnancy" in the etiology of eclampsia. In all the theories with which I am familiar in this disease still the leading and definite symptom which guides us best to a knowledge of the condition of our patient is found in a careful examination of the quantity and quality of the urine. This taken in connection with the nervous symptoms give a fairly correct idea of the necessity for interference which, like many questions of procedure, largely depends upon individual acuteness and caution.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

We will now give a glance at the necessity for active interference in cases which we believe warrant it. Do conditions warrant or demand active interference? PRUTZ, in a study of 500 cases, largely personal, shows that hemorrhage is the most common cause of death. Broncho-pneumonia is very common. In 368 cases only seven had sound kidneys (these not certain). There was nephritis in 46 per cent. Chronic inflammatory changes in 11.6 per cent. Changes in the liver, mostly hemorrhagic, in 213 cases. Cerebral hemorrhage into brain was noted in 28.4 per cent. (making a percentage of nearly 64 of all cases, showing intercranial hemorrhage). The stomach, intestines, spleen, pancreas, suprarenals and liver are also frequently found to have been the seat of hemorrhage, and even the skin, mucous membrane, muscles, serous surfaces and thyroid gland. No doubt further study would reveal a greater number of absolutely incurable lesions. His study of these cases show us how futile are all our steamings, sweatings, morphia, veratrum viride, bromides, bleedings and all other remedies, in cases that have progressed to those incurable lesions, and demonstrate to us the necessity and urgency of prophylaxis. What we do must be done before these changes occur or we are absolutely powerless, in a large percentage of cases, to avert a fatal termination. Grant that the patient escapes these fatal lesions at the time, how many cases are left with the kidneys so degenerated and the organism so shattered that they succumb later to Bright's disease or other ailment.

The most practical question that presents itself to us is, what cases are of sufficient gravity to warrant active interference in the course of pregnancy, and how are we to decide between cases that will terminate naturally, aided by diet, hygiene, baths, medicines and all assistance known to us, and cases that, with all our assistance, are over the borderland of safety and liable to lesions that are beyond our control. To answer this question or assume to answer it would be presumptuous, but there are well-known symptoms of danger which we will consider.

Albuminuria, as we all know, is very common in the latter month of pregnancy. A moderate amount of albumin, shortness of breath, palpitation and other vascular disturbances is often found in cases that continue on to full term and are delivered with no seeming deleterious consequences to either mother or child. On examination of the urine we find more or less albumin without serious apprehension. I have found that the nearer to full term these symptoms arise, when not too marked, the less their significance. These cases as a rule need nothing more heroic than regulation of diet, hygienic instructions, assistance to more perfect elimination and careful watching for increase of marked symptoms. They usually terminate favorably and in a measure tend to make us careless and less alive to the more dangerous conditions. The cases that demand our best effort are these simple ones that present early in their pregnancies, in which, regardless of treatment, the albumin increases in quantity, and the whole amount of urine passed decreases in quantity. The quantity of urine passed in twenty-four hours is significant. We should deem the decrease a significant symptom, especially if the patient drinks much water which, I believe, should be recommended. Other symptoms of marked value are irritation of the retina, "flashes of light" and so-called bright spots, vascular tension and irritability of the vascular system, rapid and wiry pulse—showing arterial contraction through the vasomotor system, sleeplessness and nausea late in pregnancy and marked and increasing anemia.

If these symptoms do not clear up after proper remedies (and among proper remedies I would name first an abundance of water, milk diet, saline cathartics, acetate of potash, digitalis, hot baths and proper hygienic conditions) I would deem it wise to consider evacuating the uterus of its contents, all efforts being made to prolong the case to or beyond the seventh month of pregnancy. Much depends upon the intelligence and facilities of the patient to carry out the details and comprehend the necessity of proper care and faithfulness in protecting herself after advice is given.

Another important element in deciding whether to interfere or not is the temperament of a patient. I had one case of albuminuria with marked suppression and edema that almost obliterated her resemblance to a human being. She was delivered on seeing her for the first time. She had no convulsions but many of the other symptoms of eclampsia. After delivery the functions of the kidneys rapidly became normal and edema disappeared. I believe had the nervous system been as acute and responsive as in the ordinary woman, she would have been overcome by the poison.

When these marked symptoms appear after the seventh month, and increase in spite of our efforts to ameliorate them, we should in all cases terminate the labor and avoid the dangers of eclampsia. Should they present earlier and become marked we should sacrifice the slight chances of saving the child and protect the mother. How shall we best bring on the labor? If the case is not too urgent, after a thorough bichloride douche, a sterilized catheter can usually be passed into the womb, passing between the uterine wall and amniotic sac. This should be passed into the womb several inches, held by a small tampon and left there. Within twenty-four hours labor usually commences and the unruptured sac is of value in dilating the os uteri and making the labor a very natural one. This method I believe more nearly accords with natural labor than rupturing the membranes when the case is not too urgent. Should convulsions threaten at the time, evacuation of the liquor amnii would relieve the pressure by decreasing the size of the gravid uterus and thereby afford a partial remedy at once, which, if necessary, could be followed by mechanical, preferably manual, dilation of the os uteri and delivery. I look upon no plan of treatment comparable in efficiency to evacuation of the uterine contents. The removal of the pressure and attendant blood-letting in most cases relieve the urgent symptoms and render other remedies active. The one drawback to the use of the catheter in the uterine cavity is its slowness in bringing on labor in urgent cases. One need is for a more rapid, safe and efficient method of bringing on the uterine contractions and evacuation of the uterine contents. It is quite true that often the seizures come on after delivery, but they probably are due to tardy restoration of the eliminative function and usually are quite amenable to treatment.

Case I.—Mrs. O., aged thirty years; third pregnancy. Previous history good. No prior illness of note. Hygienic surroundings good. An aunt died in childbirth. On June 1, I was called by Doctor Yates in consultation to see the patient. The previous day he had found her sitting in her chair where she had been for three days, being unable to lie down because of dyspnea. General edema was very great and extremities cold. Heart weak and action so rapid and indistinct that pulse could not be counted accurately. Lips pale and anemia pronounced. Respiration fifty per minute. Nervousness extreme. Remedies to relieve cardiac, respiratory and nervous symptoms were given. Doctor Yates was called at 5:30 the following morning and found all symptoms worse than on preceding day. An examination of urine revealed over seventy-five per cent. by bulk of albumin. In this condition I saw the patient in the eighth month of gestation. Doctor Yates had already advised delivery as the only means of relief. I fully agreed with him and we proceeded to introduce a catheter. During the day calomel and jalap powder, Rochelle solution, digitalis and potassium acetate were given. A steam bath of one and one-half hours was given but with little or no relief. We failed to induce the remedies to act. Edema of the lungs and general edema increased, and there was danger of collapse from this condition. Doctor Yates at 2:30 very ingeniously and effectually relieved the edema somewhat by two deep incisions into each leg which drained away literally quarts of serum, affording the needed relief. The catheter was introduced at 10 A. M. June 1. The conditions present continued until the following day about 9 A. M. Pains began at 12 o'clock, and she was delivered. The child was properly cared for and did well. After delivery the effect of the medicine began to manifest itself and free bowel and kidney activity resulted, the prior conditions seemingly preventing response to the remedies

The patient slept well and on the morning of the 3d her urine showed specific gravity of 1020 with only ten per cent. of albumin. Both mother an child did well, though the albumin continued to show in lessening quantitie for some weeks after delivery.

Case II.—Mrs. C., aged thirty-five years; third pregnancy. There was history of much swelling at last pregnancy. No examination of her urine ha been made. I saw this patient first April 16, 1896, at which time she was in the sixth month of gestation and came to engage me to attend her in confinement. Some edema and anemia were present. On examination of urine next day I found albumin in large quantities present. On further investigation I found the quantity of urine passed in twenty-four hours below normal and edema increased. I then began a careful course of treatment designed to clear up the symptoms, prescribing milk diet, large draughts of water, diuretics, catharsis, saline and mercurial hot baths, Basham's mixture, digitalis, and acetate of potash, with general tonics. The kidneys failed to respond and the symptoms continued to increase. These efforts were made during the month following my first knowledge of the case. On the morning of April 21 I was called and found the patient very edematous and having severe headache, nausea, rapid pulse and dyspnea. She was anxious, nervous, and sleepless. I administered large doses of calomel and compound jalap powder, and advised consultation and induction of delivery. DOCTOR LONGYEAR was called in consultation and on learning of the symptoms also advised the same procedure. The catheter was introduced on the 21st. On the morning of the 22d labor began. A few hard pains ruptured the membranes and an enormous quantity of the liquor amnii escaped—the most I have ever seen. In a few moments the child was expelled and later a very much flattened, small, pale placenta. The child seemed scarcely to have arrived at the seventh month and showed very little vitality. It weighed two pounds and six ounces. It was wrapped in cotton wool and later fed upon dilute brandy and milk sugar. The mother became comfortable after delivery. Her kidneys responded well to treatment and the edema rapidly passed away. The last to disappear was in the abdominal cavity which was full of ascitic fluid after delivery. The albuminuria cleared away in a few days. The infant was kept wrapped in cotton for two and one-half months and grew to be a fine healthy child—at present as large and healthy as the ordinary child of like age.

These two cases illustrate the type of cases which, if permitted to go on to full term, would in all probability have had eclampsia and died. No one can say they would certainly have done so, but we are warranted in presuming they would. We thus assume that by a proper prophylaxis four lives were saved in but two of the many cases that present for like opportunities to our fellow practitioners.

THE TRUE BASIS OF SCIENTIFIC MEDICINE.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Is medicine a science? forms the subject of many a medical essay, and is a topic periodically resurrected for discussion before the various medical associations of this country and others. It still remains unsatisfactorily answered. In its broadest and most liberal sense, the term medicine may be construed to include all the various means, methods and processes of the art of healing.

Organized matter, the human body, is only an effect. Would we know of its cause? As investigators and students of life, as exemplified in man, should we not inquire more deeply into causes? A superficial student indeed is he who dwells entirely on the effect, and dismisses the cause as being beyond his comprehension. The material world presents a beautiful panorama of effects, and so dazzling are some of its splendors that we forget the sources of its beauty. With wonder we view our own body. With mingled awe and pleasure we note the perfection and accuracy of its organization. Then, perhaps we recall a thought once expressed by JOHN HUNTER: "Life is a power superadded to matter; organization arises from, and depends on life, and is the condition of vital action; but life never can arise out of, or depend upon organization." Would you know more of matter? Then study the nature and source of life. Let us leave the narrow groove in which we have so long trodden and invade the boundless region of occult and metaphysical force. There is no science known to man of such exceeding magnitude as that of healing. When fully and completely understood, it implies an accurate and comprehensive knowledge of that stupendous force or energy which permeates all nature; that vitalizing essence of the material, of the flesh. We call it life. How best to control, manage and prolong its stay in the human body, is the mighty and important problem that confronts every student of scientific medicine. That you may be reminded that questions of this nature are of the deepest significance, and are not merely the products of visionary and immature thought, that so frequently clamors for recognition, listen for a moment to the echo of that voice from across the sea. It comes from old Moscow, where the Twelfth International Medical Congress has just closed a memorable session: PROFESSOR RUDOLPH VIRCHOW, of Berlin—that grand old man—whose wisdom has reflected so many brilliant rays of sunlight along the pathway of medicine, is giving the opening address and what is the subject? "The Continuity of Life." Learnedly he discusses the origin and nature of life and the phenomena of its presence as exhibited in the cell. He concludes by expressing an earnest hope that soon will be forged the key which shall unlock the door that holds us from full knowledge of the processes of life and its final and complete mystery.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

New and advanced ideas are constantly presenting themselves, and asking admittance to the accumulated knowledge of the past. From the laboratory of the biologist; from the mental workshop of the modern investigator of metaphysics, comes the irrefutable, emphatic intelligence that we are on the threshold of a marvellous era in science. "Knowledge is the golden key that unlocks the gate to all mysteries," was once said. The present age demonstrates its truthfulness and universal application. Do not misunderstand the import of the thoughts here presented. A plea for the more thorough investigation of the energies, forces and phenomena of life, implies a more minute, searching and vigorous study of the qualities and properties of matter, animate and inanimate.

Sometimes we smile at the system of our brother, who looks only for symptoms and administers his potencies accordingly. We say, "How superficial is he." And yet, from the days of the father of medicine to this closing of the nineteenth century, we have done comparatively the selfsame thing. Our study of life, as presented in the human body, has been confined entirely to the material. We have studied matter, which the physicist tells us is, in itself, only an effect, and thus do we differ in conclusions as to the science of our art. The term science cannot be applied to any system of investigation based entirely on a study of effects. Such investigation and research must go far beyond this; not only to the immediate, but to the most remote causes. Then, and only then, is it possible for that systematic and logical arrangement of truths necessary for a construction of a great system of definite laws and facts, such as is the science of life, upon which must rest the science of medicine. When the art of healing includes all this and is studied and practiced from such a basis, then, and only then, should it be entitled to the term *science*. To call ourselves men of science, simply because we are acquainted with the structure of the human body, the usual function of its parts, and how a certain remedy acts under certain conditions, and yet at the same time know nothing of the distinguishing formative force which controls it all, is, at the very least, presumptive egotism.

"But," says one, "I am satisfied to know what I can of the material; of the mere effect. I care not to go further." Such an opinion uttered during the dark ages, when ignorance, like a heavy cloud, hung over the lives of men, might have received a responsive reception; but not now. The human mind, true to the great law of progressive development, has long since reached the outer limits of animate matter. Fearlessly it has launched itself far beyond, on the great ocean of occultism. On the boundary line, between the material and psychic world, ages ago, science erected a signboard, upon which was written in bold letters, the single word, "unknowable." But you cannot fetter thought. The modern student of science recognizes no such term as "unknowable." To him the nearest approach is the expression, "unknown." And now the old signboard has been destroyed, and in its stead we find another erected. In letters of gold, whose brilliancy has penetrated the heavy cloud of ignorance that once obstructed the pathway of human thought, we read the cheering word "known."

All schools of medicine have unquestionably some element of truth as a basis, and, just in proportion as this is classified does each school approximate a science. Today two great extremes present themselves as illustrative of modern thought in medicine. We, the materialists, who adopt as a basis that knowledge of the extension of life which may be learned from the phenomena of cell development and growth. With reference to the great vitalizing force that makes it a cell, we need necessarily know nothing. On the other hand we find the metaphysical or Christian scientists, who adopt the other extreme and deny the existence entirely of matter. What deduction may be made from this? Both are in error, and yet both occupy fields of knowledge which cannot be ignored or rejected, if we will have medicine a science. One of these lines of thought endeavors to erect a science based on knowledge derived from a study of *cause* alone; the other from *effects* only. All great reformations or discoveries were primarily the result of extreme ideas. As error grasps the great pendulum of human progress, she draws it far by the centre line. Its return oscillations swing it far to the opposite side. When the pendulum of thought finally assumes its place over the centre mark it will point to the following truth (as expressed by O. B. Flower in a recent number of *The Arena*): "Mind is greater than matter, and in man there is a power, which, when sufficiently developed or cultured will enable the real ego to master disease."

While we cannot, perhaps, accept this unqualifiedly, yet in the light of modern investigation, who will care to limit the possibility of future discoveries? Note the wonders revealed by electrical research, an invisible force, the nature of which was never dreamed until recently. The human voice, by the phonograph, may be made to breathe the thoughts and intonations of the humblest artisan, or the burning eloquence of the most brilliant orator, ages after the occurrence of that change we call death. Is it more wonderful, then, and are we not justified in anticipating the time when we can so exactly arrange the condition of matter, the cell constituents, the relations and environments of the material, as to be able to control, adjust and distribute the forces of nature—life itself, as we see it presented in the human body? When this can be done, intelligently and understandingly, then can we say, truly and emphatically, "medicine is established on a scientific basis."

THE VALUE OF THE ISOLATION OF COMMUNICABLE DISEASES.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

The subject of this paper was suggested to me at a recent meeting of this society at which there was to be a discussion on the value of isolation. Some of the members expressed the desire that a paper be presented so that they might have something to discuss, and it is for that reason that I will endeavor to present a few thoughts that have occurred to me in connection with this subject.

Before entering upon this discussion *per se* I wish to call your attention to the fact that I use the word communicable advisedly in order to include infectious as well as contagious diseases.

In order to consider the value of isolation as a sanitary measure we must bear in mind several factors: (a) The period of incubation of the various diseases. (b) The period of infectiveness. (c) The separation of the well from the sick. (d) The mortality rate of the disease. (e) The duration of the disease.

The first factor varies greatly in the different diseases and comes into play in every case. The period of incubation is, of course, the length of time elapsing between the first invasion of the disease in the patient and the appearance of the characteristic symptoms, and just in proportion to the length of this period does the difficulty of isolation increase, for example, the period of incubation of measles is about ten days and that of diphtheria only three days. Now measles is a disease that is much more difficult to isolate because nearly two weeks elapse before anyone knows that the patient has measles, but all this time it is infectious and hundreds of persons have been exposed in each particular case. In the case of diphtheria on the other hand, the disease has invaded the child but a day or two before the symptoms are manifested and isolation is practiced much earlier and is much easier to enforce.

The second factor is the period of infectiveness. This period also varies, and according to a report published recently by the London Clinical Society

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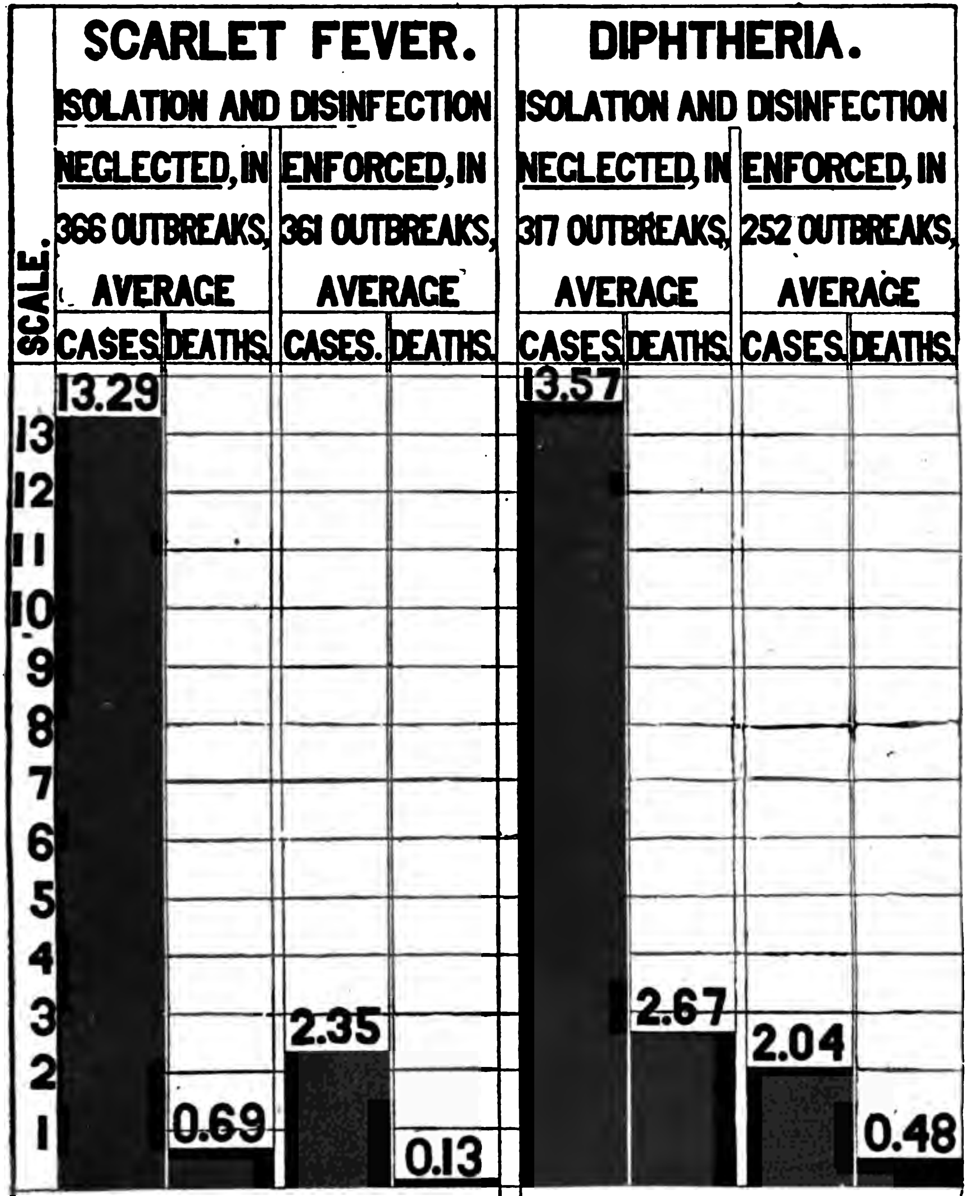
*Read before the Detroit Medical and Library Association.

ISOLATION AND DISINFECTION RESTRICTED SCARLET FEVER AND DIPHTHERIA IN MICHIGAN DURING THE 5 YEARS 1886-90.



TOTALS: OUTBREAKS, 1,857; CASES, 11,312; DEATHS, 591
INDICATED SAVING OF CASES 13.29 X 1,857 - 11,312 = 13,368
INDICATED SAVING OF LIVES .69 X 1,857 - 591 = 690.
Excludes Outbreaks not having "Neglected" or "Enforced"

TOTALS: OUTBREAKS, 1,985; CASES, 11,634; DEATHS, 2,578
INDICATED SAVING OF CASES 13.57 X 1,985 - 11,634 = 15,302
INDICATED SAVING OF LIVES 2.67 X 1,985 - 2,578 = 2,722

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after having carefully studied this question for several years, the period of infectiveness of the more important communicable diseases is about as follows:

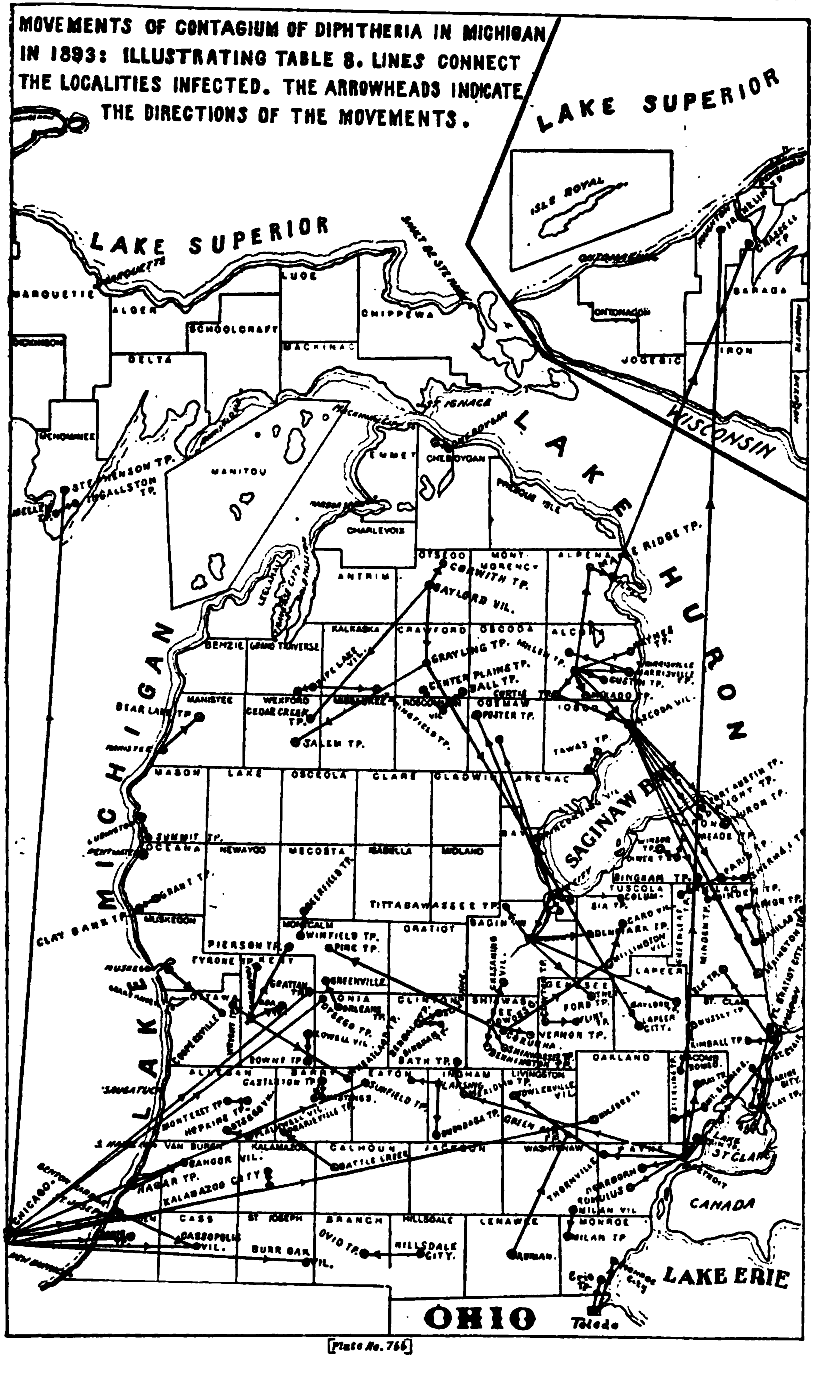
Diphtheria, two to seven days, oftenest two. Typhoid fever, eight to fourteen days, sometimes twenty-three: Influenza, one to four days, oftenest three to four. Measles, seven to eighteen days, oftenest fourteen. Mumps, two to three weeks, oftenest three weeks. Rubeola, two to three weeks. Scarlet fever, one to seven days, oftenest two to four. Small-pox, nine to fifteen days, oftenest twelve.

Now, then, we know how long each disease is infectious or contagious and we know the duration of the disease, but just which part of the entire period is the infectious one has not been definitely determined, for example, diphtheria is infective during the period of incubation, attack and convalescence; mumps and rubeola are infective for three or four days before the onset of the parotiditis and appearance of the rash, whereas scarlet fever and small-pox do not become so until after the appearance of the fever at least. Therefore, to have a perfect system of isolation it is, in my opinion, necessary to isolate the particular case as soon as any knowledge of it exists and keep it isolated for a period of time extending over the whole course of the disease, and this is a point that I wish to emphasize, for isolation enforced for too short a time is almost as bad as no restriction at all because the probability is that the case will be freed during its most contagious stage.

The third factor, the isolation of the well from the sick, is, it seems to me, worthy of consideration. We can readily understand that a child sick with one of the more dangerous communicable diseases will be isolated almost without any interference on the part of the health officials because the patient is necessarily confined to her bed, but to keep the well from coming in contact with her is the part of the duty that is more difficult. Not only that, but persons who are known to have been exposed to a communicable disease should be isolated for a period of time equal to the stage of incubation of that particular disease.

The mortality rate of the various diseases is an important factor because in proportion as the disease is fatal will the laity assist in isolation. No one would willingly expose himself to yellow fever, cholera Asiatica or small-pox, whereas the same person might think nothing of coming in contact time and again with a case of measles, mumps or whooping-cough.

I want to call your attention to the duration of the disease as of importance to and directly bearing upon isolation. A disease that is acknowledged as communicable and the duration of which is short can be comparatively easily isolated. You tell a patient and his relatives that they are to be "locked up" for a week and you will find little or no opposition, but when you talk about twenty-eight days as is customary in scarlet fever you immediately meet opposition and in a disease the duration of which is liable to be years, the objections are so strong that we are hardly able to overcome them. I refer now to tuberculosis. This disease is certainly communicable, that is, infectious if not contagious. It has been argued that cases of tuberculosis cannot be isolated because many of them are not recognized and because the community at large do not consider the disease sufficiently dangerous to assist in the isolation. It seems to me that these arguments will not hold good inasmuch as the existence of the disease can be definitely proven by the presence of the bacillus in the sputum, MOVEMENTS OF CONTAGIUM OF DIPHTHERIA IN 1893.


MOVEMENTS OF CONTAGIUM OF DIPHTHERIA IN MICHIGAN IN 1893: ILLUSTRATING TABLE 8. LINES CONNECT THE LOCALITIES INFECTED. THE ARROWHEADS INDICATE THE DIRECTIONS OF THE MOVEMENTS.
LAKE SUPERIOR
ISLE ROYAL
LAKE SUPERIOR
WISCONSIN
LAKE HURON
SAGINAW BAY
LAKE MICHIGAN
CANADA
LAKE ERIE
OHIO
Toledo
CHICAGO

[Plate No. 766]

and the laity must certainly acknowledge the severity of the disease if their attention be called to the mortality rate, which stands at the top of the scale in the state of Michigan. But in this particular disease the duration is the obstacle. Is it possible or just to isolate people during the course of a lifetime? I am of the opinion that it should be done,—and why not? Certainly persons afflicted with consumption are much more dangerous to their fellow citizens than are patients suffering from diseases of the mind, nor are the latter any more responsible for their condition than the former.

After having taken up somewhat at length the various factors that must come into consideration, I am prepared to say that an ideal system of isolation can be carried out by strict attention to these factors and by first overcoming them whenever they may appear as obstacles.

Having enforced this ideal isolation what have we accomplished and of what value is it? This point can best be determined by comparison. Isolation only incompletely carried out as it necessarily must be in cities, has given brilliant results in the restriction of communicable diseases. DOCTOR HENRY B. BAKER, in a paper before the Conference of Health Officers in Michigan, held in Ann Arbor, July 16 and 17, 1896, opened a discussion bearing on this point and he demonstrated his statements by means of a diagram which I take the liberty of producing. The diagram shows that in each outbreak of diphtheria in which isolation was neglected there have been 13.57 cases, whereas in the other outbreaks there have been only two cases at an average in each outbreak; or in other words, there were five times as many cases and five times as many deaths in the neglected outbreaks as in the others. This proves that at least four-fifths of the cases come directly or indirectly from preceding cases and are preventable by isolation. The accompanying map taken from the same source as the diagram shows the movements of the contagion of diphtheria for a single year and proves that the other one-fifth of the cases is communicable in the same way as the four-fifths, namely, from preceding cases. Looking again at the diagram we see a similar result from the isolation of scarlet fever as we find in diphtheria, and why can we not say then that what isolation will accomplish for the prevention of one communicable disease it will do for another, bearing in mind always that the results will be limited in proportion to the existence of the factors mentioned in this paper, that is to say, that isolation of a disease will be most nearly perfect and consequently give us the best results when the disease is one in which the period of incubation is short, the period of infectiveness distinctly limited, the duration of the disease not too long, the mortality rate great and when it is possible for us to so isolate as to keep every one except the necessary attendants from coming in or going from the place of isolation. There appears to me but one way in which isolation could be successfully carried out in any community and that is by the establishment of an isolation hospital. This city and every other city, village and township should have such an hospital and each case of communicable disease should be removed thereto immediately upon its appearance.

The results obtained by isolation as demonstrated by the diagram show a reduction in the number of cases and the number of deaths, and when we know that with the means at hand we can restrict these dangerous diseases to one-fifth their ordinary number I think we may justly conclude that with a perfect system of isolation we might eradicate the diseases entirely. Certain it is that isolation is of value in the restriction of communicable disease.

SOME REMARKS AND REPORTS UPON SPECIMENS IN ABDOMINAL SURGERY.*

By H. O. WALKER, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively]

APPENDICECTOMY.

Specimen I—Appendix Vermiformis.—History.—This specimen was removed a few minutes ago at Saint Mary's Hospital from A. L., aged twenty-one years, sent there by Doctor F. N. Henry. His previous history was good, the only illness he had ever had was an attack of malarial fever last fall from which he made a good recovery. Last Saturday, March 5, just after eating dinner he was attacked with a severe abdominal pain, diffuse in character, slight nausea but no vomiting, and constipation. He did not see a physician until yesterday afternoon when Doctor Henry was called and diagnosed appendicitis, the first attack, never having had abdominal tenderness previously. He entered the hospital at 4 p. m. today.

Examination.—Abdomen moderately tympanitic, great tenderness and rigidity over and around McBurney's point. Temperature 103⅕, pulse 108 and respiration 26. Urine normal.

Operation.—Straight incision three inches in length through outer border of rectus. Mass of thickened omentum protruding and adherent to cecum, which on separation revealed a teaspoonful or more of pus around distal end of appendix, which was found pointing upward to the right from beneath the cecum. Adhesions were considerable. The appendix was seven inches in length and tortuous. Meso-appendix was ligated in sections and appendix finally liberated and a purse-string suture introduced above appendo-cecal junction, when it was amputated with the thermo-cautery, and edges inverted and sutures tied. Hemorrhage was slight; gauze drainage was used, and edges of abdominal wound were approximated with interrupted silkworm-gut sutures.

Remarks.—The anesthetic used was chloroform followed by ether. During the operation artificial respiration was resorted to twice on account of cyanosis and cessation of respiration. I learned then for the first time that the patient had been suffering for several days from a hard cold, which was undoubtedly the cause of the conditions observed during anesthesia. It was observed that the appendix was gangrenous to a certain degree for two inches at its lower end, but not perforated, and further that it contained a fecal concretion, and that it was constricted in compartments. The thorough ligating of the meso-appendix is important, as I had not long ago a death five hours after operation, from hemorrhage, where I had torn adhesions and did not ligate the meso-appendix sufficiently. On two or three other occasions obstinate hemorrhage has occurred necessitating the plugging of the wound. While speaking of hemorrhage in this connection I wish to allude to the occurrence of severe secondary hemorrhage following three operations several days afterward, in suppurating cases necessitating the reopening of the wound before it could be controlled. The hemorrhage undoubtedly had its origin in each instance from the sloughing omentum.

It hardly seems necessary to state that, in the present condition of our knowledge, the diagnosis of appendicitis is easy, except in rare instances, and that when made should be followed by operation. I would only make one exception, and that would be when there was marked subsidence of symptoms, waiting until all was quiet and then operate. It would simply be a question at what time in this particular case when the operation should be made, as it is the only definite cure. It prevents recurrence and often death.

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*Presented at a meeting of the Detroit Medical and Library Association held March 7, 1898.

CHOLECYSTOTOMY AND CHOLEDOCHOTOMY.

Specimen II—Gall-Stones.—Mrs. G. H. T., aged fifty-four years, referred to me for operation by Doctor G. V. Chamberlain, of Flint, was admitted to Harper Hospital January 11, 1898.

Family History.—Father died at the age of fifty-six years with obstruction of common duct evidently from gall-stones, as he had had frequent attacks of biliary colic and jaundice. Mother died at the age of seventy-one from diabetes. Has a brother aged fifty-two who suffers from biliary colic with occasional jaundice, undoubtedly due to gall-stones.

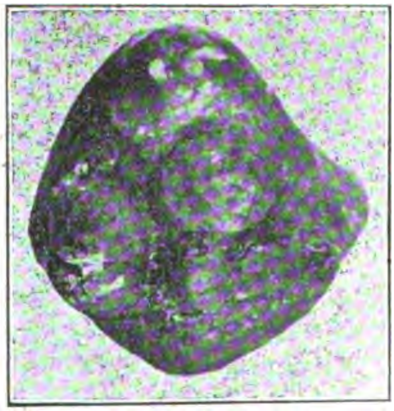

Figure I.

Previous History.—Aside from dyspepsia she was usually in good health up to three years ago last summer, when she was attacked with severe pain in the region of the gall-bladder, with jaundice lasting five or six weeks, followed with more or less sensitiveness in this region at times until March, 1897, when she had another severe attack, followed at intervals of increased frequency up to the time of operation. She has been continually jaundiced for the last seven months, with clay colored stools and has lost forty pounds in weight since March, 1897. Intolerable itching of the whole body for the last several months.

Patient's Present Condition.—Temperature 99½°, pulse 96. Complexion a green yellow. Conjunctiva the same color. Stools markedly clay color. Pain on pressure over the gall-bladder. Liver protrudes below lower border of ribs. Physical inspection otherwise normal, except a trace of albumin in the urine, but no casts.

Operation.—On January 12, 1898. An incision made in the right border of rectus muscle extending downward from the ribs for about five inches. Omentum protruded through opening which was pushed back and walled off with small hot towels. Liver deeply congested. Gall-bladder somewhat distended. Gall-stones could be readily felt through the walls. Adhesions to omentum were plentiful, which with difficulty were released, when a large hard body could be felt in the common duct (Figure I) which I was unable to push either up or down. The next step in the operation was the introduction of a purse-string suture (catgut) around the fundus of the gall-bladder. Within the circumference of the suture the bladder was incised and the stones (three in number) removed with long dressing forceps (Figure II, right side). Then I proceeded to attack the stone in the common duct which was done by a longitudinal incision over it, and when of sufficient length was gently pushed through by the thumb and finger. This incision was closed by two rows of continuous catgut sutures; first by the approximation of the mucous and muscular layers and secondly the peritoneal layer. The opening at the fundus was closed by inverting it and then by puckering and tying the purse-string suture, whereby there was a direct approximation of the serous surfaces. Gauze drainage with rubber tissue covering it was introduced and the wound approximated with interrupted silkworm-gut sutures. Until January 19 the temperature varied from normal up to 100°, when it rose to 102½° and continued about the same until January 29, when it returned to normal. The other symptoms during these ten days were profuse sweating and a slight chilliness at times. At first I was unable to account for the sudden rise of temperature as all other evidences of septic wound were absent. The source was quickly ascertained by urinalysis, when quantities of pus were found with scant secretion of urine. Diuretin in ten grain doses gradually changed this condition. Yellow stools were first observed on January 21; the yellow green color gradually began to fade. February 10, the date she left the hospital, she was able to walk the halls of the hospital. She sleeps well, appetite good, stools normal and no trace of albumin. At this writing she is nearly at her former weight and has an extraordinary appetite.

Remarks.—It will be observed that I did not stitch the gall-bladder to the abdominal parieties, but closed the opening and let it drop back. Experience has taught me, as it undoubtedly has other surgeons, that a persistent or possible permanent fistula is the consequence, and anything but a pleasant affair to the patient. Why the need of leaving a fistula if your work has been well done? The only necessity would be an empyema of the gall-bladder and then a secondary operation would be much preferable to leaving it to close by granulation.

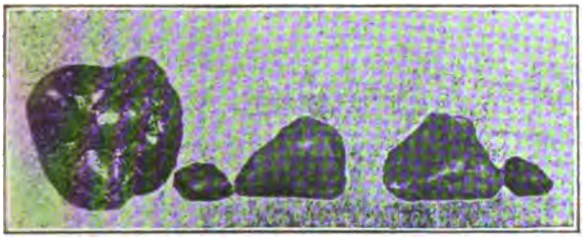

FIGURE II.

Specimen III—Sixty-eight Gall-Stones (Figure III) removed February 24, 1898, from J. C., aged thirty-nine years, weight one hundred and sixty-five pounds, referred to me by DOCTOR C. BONNING, of Detroit. Family history good.

Patient's History.—Has been the victim of so-called bilious attacks for the last twelve or fifteen years, lasting from two to four months; confined most of the time to his house. No pain, simply distress, in the region of the liver, gall-bladder and stomach, rarely any rise of temperature. These attacks occurred two or three times a year with partial jaundice. Three years ago he had the first attack of severe pain lasting three hours, with vomiting of blood, relieved by a hypodermic injection of morphia. One year later another attack occurred of longer duration, followed by others at more frequent intervals. About a year ago, in the absence of his family physician, DOCTOR BONNING was called, diagnosed gall-stones and advised an operation, but his physician disagreed with the opinion and attributed these paroxysms to the passage of "thickened bile." After this numerous gall-stones were found in the stools at various times. The last attack occurred two weeks ago when Doctor Bonning was again called and reiterated his previous opinion and advice. I saw him with Doctor Bonning February 22 and concurred in the opinion, following which he went to Harper Hospital February 23.

Present Condition.—The extreme jaundice and constant pain in region of gall-bladder is rapidly disappearing and his recovery seems assured.

Remarks.—Histories like the above, in our present state of knowledge, should indicate the condition and the necessity for surgical interference long before the paroxysms of pain occurred. In this case the prognosis would have been grave without an operation. The unfortunate presence of sepsis in the gall-bladder obviated the advisability of closing the incision.

HYSTERECTOMY BY ABDOMINAL SECTION FOR FIBROMA OF THE UTERUS.

Specimen IV.—Uterus with Ovaries (Figure IV), weight eight pounds. Mrs. B., aged fifty-two years, entered Saint Mary's Hospital February 4, 1898, having been sent to me by Doctor A. R. Ingram, of Fenton, Michigan.

Previous History.—Mother of four children. Has been conscious for the last six years of a gradually growing tumor in the pelvis. Treated by several physicians, one of whom used some sort of electrical treatment without benefit. For the last year uterine hemorrhage has been frequent and profuse.

Present Condition.—Walks with great difficulty. Very much emaciated and anemic. Rapid pulse. Difficult defecation and frequent micturition.

Physical Examination.—By vagina the tumor is found to fill the pelvic cavity, pressing on the rectum and bladder. Tumor can be seen projecting above the umbilicus and felt mostly to the right. By abdominal manipulation the tumor is but slightly movable. The urine has a specific gravity of 1026, acid, no albumin or sugar.

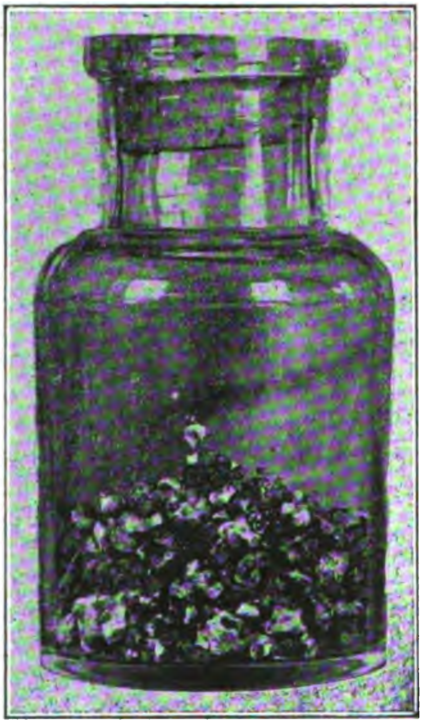

Figure III.

Preparation.—Copious draughts of water were given as soon as she entered the hospital and continued until the time of operation, the better to meet the postoperative thirst. General bath, soap poultice on abdomen over night, scrubbing on the morning of operation with soap and water and bichloride dressings applied. Mild cathartic (saline), enemas and carbolated vaginal douche given.

Operation.—January 5, 1898. Incision to right of median line through inner border of right rectus muscle, extending from two inches above symphysis to two inches above the umbilicus. Section revealed extensive adhesions to omentum, rectum and bladder, traversed with many large blood-vessels.

Adhesions were carefully separated and ligatures applied as necessary, first isolating ovarian and uterine arteries and ligating them separately. The entire uterus was removed by circular amputation of vagina at its upper end; the cut edges of walls of vagina were approximated with two rows of catgut sutures, and afterward as far as possible the cut edges of peritoneum. Glass drainage through abdomen but none through vagina. Abdominal incision was closed by interrupted silkworm-gut sutures. Although very weak from acute anemia she made a good recovery and left the hospital for her home on the thirty-third day.

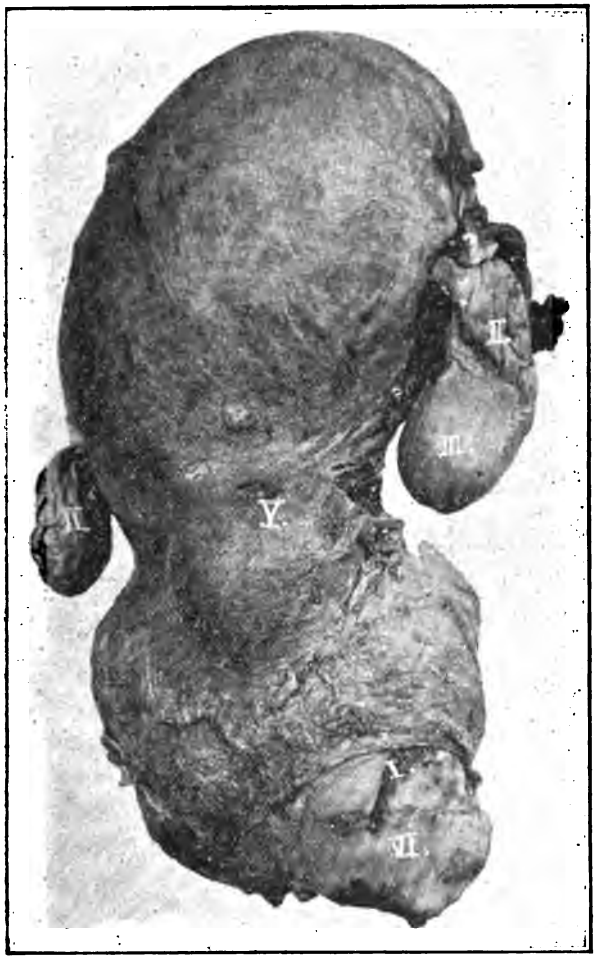

Figure IV.

Specimen V—Fibroma of Uterus—Interstitial—(Figure V). Weight seven pounds. Miss L. L., aged twenty-eight years. I first saw her January 19, 1898, in consultation with Doctor F. B. Walker.

Previous History.—Had knowledge of growing tumor for three years, with persistent headaches at times and several severe hemorrhages. Anemia was a prominent symptom. Mother and aunt died from some form of malignant growth. Has been operated upon twice within the last year per vaginam for removal of growth.

Present Condition.—Very anemic, temperature 100° and pulse 100. Examination reveals tumor filling pelvis, immovable and markedly apparent by the prominence of the abdomen. Urine normal. The preparations were made as in the preceding case.

Operation made January 25, 1898, by Doctor Frank B. Walker and myself. While liberating adhesions which were more extensive than in the preceding case, we inadvertently rent the bladder on the posterior part of fundus transversely for three inches, which was closed with two rows of continuous catgut sutures. The tumor was cut off just below the utero-vaginal junction and the wounds treated in the same manner as the case just reported. Shock was profound after the operation and necessitated prompt and copious cellular infusion of saline solution under the breasts. The rapid pulse kept up for several days. She, however, rallied gradually and made a good recovery leaving the hospital February 21, 1898. No inconvenience followed the rent in the bladder and the headaches have ceased.

Remarks.—My reason for not making a median incision through the abdominal wall is that experience has taught me that there is less liability to a ventral hernia when the incision is made through the belly of the muscle. A much firmer union is the result. I am also convinced that there is less liability to stitch abscesses with a removable suture than when it is buried. Hysterectomy for removal of intramural fibromata of the uterus is a justifiable operation. The earlier it is done the less the mortality. Anemia and degeneration of the organs is of a less degree and is conducive to better results. Low mortality is largely due to our improved knowledge of operative technique and aseptic precautions. This fact makes it a justifiable procedure and one that the surgeon can conscientiously recommend. How much better that a woman should have a bleeding uterine fibroma removed than go through a life of chronic invalidism accompanied with suffering and an early death. Small tumors may be removed through the vagina, all other things being equal.

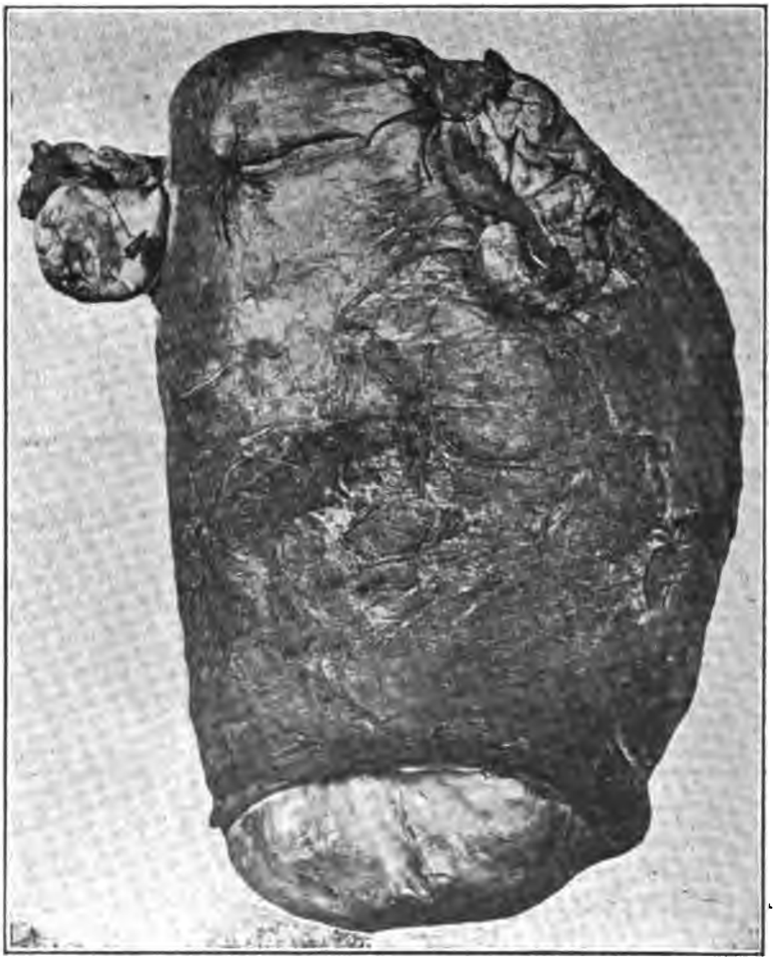

FIGURE V.

OOPHORECTOMY.

Specimen VI—Ovaries and Rudimentary Uterus removed from Miss M. G., aged twenty-three years, January 13, 1898.

Previous History.—Patient was brought to me about six years ago by her married sister for the relief of amenorrhea. For a year or more she has suffered with pains peculiar to the appearance of the menstrual function, but there was no further evidence. Her sister stated that she had been examined by several physicians, one of them informing her that there was an abnormality of some kind. I found by examination that the labia were normal, and on separating them but one opening was apparent and that much smaller than a normal ostium vaginæ yet much larger than a normal urethra. I was unable to introduce even my little finger. On introducing a catheter a quantity of urine was withdrawn. A sound was then introduced and full-sized bladder explored. Further examination failed to find any evidence of vagina whatever. Subsequently I made a bimanual (finger in the rectum) examination and found what seemed to be a rudimentary body together with ovaries. She would occasionally have incontinence of urine. Since I first saw her she has had a varied train of symptoms—severe pelvic and abdominal pains and dyspepsia. Has worn abdominal bands, spent several months at a sanitarium and received the usual treatment given at such places. She taught school until the early part of last year when the condition of her health was such that she had to give it up. Two months ago she returned to me willing to submit to a laparotomy that I had suggested to her several times.

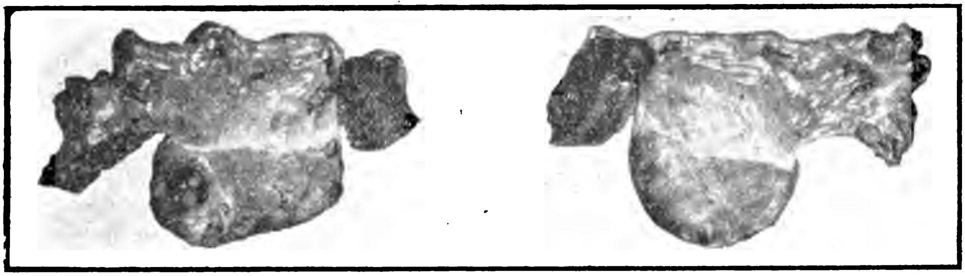

Figure VI.

Present Condition.—Doctor W. P. Manton examined her with me under the influence of an anesthetic January 7, 1898, and fully corroborated my diagnosis and concurred in my advice as to the necessity of a laparotomy. She entered Harper Hospital January 11, 1898, and underwent the usual preparations for the operation.

Operation January 12, assisted by Doctor W. P. Manton. After making the median incision she was placed in the Trendelenberg position which gave us a fine view of the contents of the pelvic cavity. The ovaries and Fallopian tubes were normal in appearance. The tubes attached on either side to a solid rudimentary body, the bodies widely separated from each other converging and oining together below into a thin sickle-shaped band. In this band we felt two flat button-shaped bodies. There was no evidence in the least of a vagina. The ovaries, tubes and bodies were removed as seen in Figure VI. She made an uninterrupted recovery and left the hospital February 3. She was in my office today and has gained materially in weight. Entire subsidence of pelvic pain.

Remarks.—This case is not only interesting from its rarity, but from the relief following the operation.

INTESTINAL OBSTRUCTION.

Specimen VII—Section of Small Intestine four inches in length (Figure VII)—*Murphy Button; Strangulated Femoral Hernia.*

History.—MRS. S. O. N., aged seventy-nine years, has had a right femoral hernia for fifty years, for which she wore a truss all that time. She has noticed for a long time a small swelling just above Poupart's ligament which could not be completely reduced. January 12, 1898, she complained somewhat of abdominal distress, slight nausea and occasional vomiting. January 13, DOCTOR JOHN COVENTRY, her family physician, was called who treated her for simple indigestion, no mention having been made of the hernia as it gave no uneasiness. A cathartic was given. On January 14 the doctor's attention was called to the hernia as it seemed to be larger than formerly. Taxis only partially reduced it. The cathartic was not effectual. Other cathartics together with rectal enemas failed to evacuate the bowels. January 15 DOCTOR COVENTRY sent for me with the view of operating.

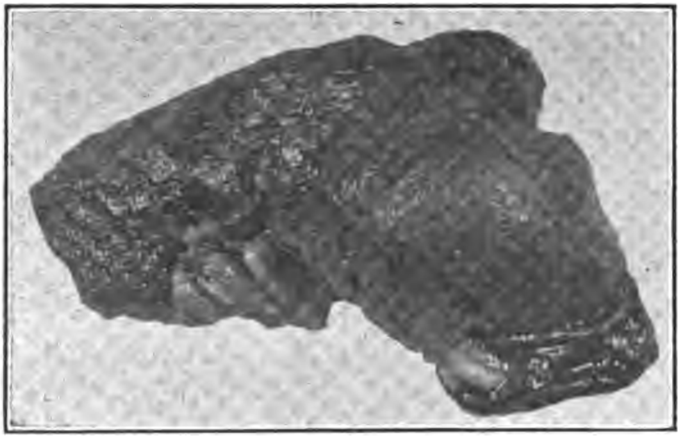

FIGURE VII.

Present Condition.—Temperature 99°; pulse 86 and though irregular, was not considered of importance as it had existed for years. Abdomen slightly tympanitic. Swelling in groin was not very sensitive on manipulation. Tongue heavily coated. Nausea slight; had vomited once or twice during the day. All efforts at evacuation of the bowels had been futile. We both agreed that the hernia was strangulated and that immediate surgical interference was necessary.

Operation 4:30 P. M. Incision directly over tumor, freely exposing a mass of omentum as large as a small hen's egg. This was incised and a knuckle of black and partially gangrenous intestine exposed. The sac was cut off. The intestine was found to be firmly adherent within the femoral canal, and on attempting its liberation it ruptured. After enlarging the femoral opening the intestine was withdrawn and four inches resected. Before resection, however, purse-string sutures were made to encircle the intestine through the healthy portion above and below the diseased portions, the omentum tied in section and a Murphy button applied. My reason for so doing was that it is much easier, quicker and more accurately done before resection than after, and there is less liability of escape of fecal matter from the cut ends of intestine. The symptoms were favorable until the twelfth day when the lower end of the wound gave way, discharging a small amount of pus and the fifteenth day fecal matter escaped and continued to do so for several days, when it gradually ceased and the opening closed completely on the thirtieth day. On the forty-fifth day the button was passed. At the present time she is up and about in her usual health.

Remarks.—It was a question at first whether the fecal drainage was at the point of attachment of button or in close proximity. It should have been remarked that there was a suspicious dark spot of intestine just below the button adjustment which might have given away. In all probability there was a defective point of union at the button attachment. In any event dame nature gave us the benefit of her aid and closed up the intestinal fistula.

Specimen VIII—Section of Small Intestine one and a half inches in length (Figure VIII).

Previous History.—MR. L., aged sixty years, suffered for several years from chronic diarrhea and afterward with obstinate constipation, necessitating cathartics and high rectal enemas. He had frequent attacks of temporary intestinal obstruction which usually passed off in a few hours or a day or two. The last attack came on Tuesday, February 15, 1898, and all attempts at relief failed. Stercoraceous vomiting, pain and tympanites were the prominent symptoms. There was at no time any great amount of rise of temperature or accelerated pulse. DOCTOR A. L. SEELEY, of Mayville, Michigan, his medical attendant, sent for me to operate February 22.

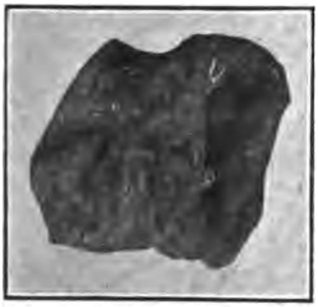

FIGURE VIII.

Present History.—Temperature 100°, pulse 108; marked tympanites. Had not vomited for several hours. No tenderness. Apparently some better than the day previous.

Operation.—Assisted by DOCTORS SEELEY and GARVIN. Median incision, through which escaped quite a quantity of light-colored serum. Intestines darkly congested and inflated with gas. Point of obstruction was readily found in the ileum a few inches from the ileo-cecal valve made by an adherent band of omentum which had nearly cut the intestine in two. There was also another band a short distance farther on. The latter was separated leaving a slight erosion at point of constriction. The impairment of intestine at first point of constriction was of such a character as to necessitate resection and adjustment with a Murphy button. Abdomen closed and gauze drainage introduced. In a recent letter from the doctor he stated that the symptoms up to the tenth day were favorable when he discovered a discharge of fecal matter from point of drainage. Patient died within twelve hours. Unfortunately no autopsy was permitted.

Specimen IX—Ascaris Lumbricoides, removed from small intestine by section.

Previous History.—ADDIE McL., aged four years, entered Harper Hospital December 30, 1897, by the advice of DOCTOR W. H. MILLEN, of Wheatly, Ontario. The mother stated that for twelve days previous to coming to the hospital all attempts to evacuate the bowels had been ineffectual. Vomiting and tympanites had been the most prominent symptoms. Although a very active child she has always been poorly nourished and constipated.

At the time of entrance her temperature was 99° and pulse 108; greatly distended abdomen with vomiting. Efforts were again made to evacuate the bowels without avail, and it was evident that surgical interference had become a necessity as the abdomen was becoming enormously distended and the pulse 120 and feeble.

Operation, January 1, 1898, on the fifteenth day of the obstruction. Median incision. Abdomen contained considerable quantity of bloody serum. Intestines darkly congested and greatly distended. The obstruction was located within four or five feet of the ileo-cecal valve caused by an organized band of omentum an inch in width. When ligated and cut away the intestine had the shape of an angular anastomosis of the small to the large intestine indicating that the constriction had been of long standing. No other points of obstruction were discovered. On attempting to close the abdominal wound it was found to be impossible on account of the great quantity of gas and liquid fecal matter in the intestine. I opened it at two points, first introducing purse-string sutures, and incising the bowel within its circumference. Nearly three pints of fecal matter were removed aside from an enormous escape of gas, together with the round worm here exhibited. Approximation of the abdominal incision was then a matter of ease. Hot towels were, however, first introduced, in order to restore abdominal circulation, as the long continued manipulation necessarily caused a cyanosis of peritoneum and intestines. This maneuvre repeated made quite a change in their appearance before closure. No drainage used. Saline infusion was injected beneath the skin before leaving the operating room. Bowels moved next day and she made a remarkable recovery, leaving for home on the 16th of January.

Remarks.—The high mortality following intestinal obstruction of the past necessitates an early and correct diagnosis and timely surgical interference for the future. The point of obstruction may be sometimes difficult to determine but its existence should be apparent. Some writers lay great stress upon the amount of pain present in this class of cases. It has been my experience that pain is far from being a prominent symptom. Abdominal uneasiness would be a better expression. Vomiting, constipation and tympanites are the trio of symptoms to be considered in making a diagnosis.

BICYCLING: FROM SOCIAL, BUSINESS, AND HEALTHFUL STANDPOINTS.*

By THEODORE R. MacCLURE, Lansing, Michigan.†

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THAT the bicycle is one of the greatest inventions of the age, is accepted by nearly every class of society. While bicycles have been known many years, it is only within the past ten years that wheeling has become so universal. The wheel has become an important element in modern life; and, although considerable has been written on the subject, much has not been written, much more will be written, and the subject will be discussed *pro* and *con* for years to come.

It might be well to mention that the object of this paper is not in any way to discourage the use of the wheel; but, on the other hand, to encourage its *judicious* use; and, by discussing certain features of the subject, endeavor to suggest to cyclists ways in which they can guard against any possible dangers.

This paper will endeavor to deal with wheeling from three standpoints: Social, business and healthful, but with especial reference to its influence upon the healthfulness of the exercise.

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*A paper presented at a Sanitary Convention, under auspices of STATE BOARD OF HEALTH, held at Detroit, December 9 and 10, 1897.

†Chief Clerk in the State Board of Health Office.

FROM A SOCIAL STANDPOINT.

There can be no question of the utility of the bicycle in society. Never during the history of civilization has any invention been more of a boone to society. The enjoyable features of the wheel are so apparent that little need to be said on that phase of the subject.

What can be more enjoyable than riding a wheel? There is no grander sight than to see the young lady, or the young man gliding down our streets, through the beautiful drives of our parks, or enjoying the grandeur of the country scenery; it is a healthful and pleasing exercise combined.

Bearing upon the influence the bicycle has had upon society, I take the liberty to copy from a recent issue of *Good Health* the following verses:

THE SONG OF THE WHEEL.

THE OLD.

In and out of her golden hair
The sunbeams softly steal.
And her voice floats out on the summer air
As she sings to the hum of her wheel.
Little feet lightly the pedals press,
A white hand moves to and fro
As she sits in her quaint, old-fashioned dress
At the wheel of long ago.

THE NEW.

The wind has ruffled her careless hair,
She is dust from her head to her heel,
But she gaily whistles a rollicking air
As she springs to her seat on her wheel.
Stout little boots the pedals press;
In an instant she's off and away,—
The muscular maid in her bicycle dress
On the wheel of the present day.

PREVALENCE OF THE WHEEL.

Just to whom we are indebted for the invention of the bicycle it is difficult to ascertain, and it would occupy too much time to go into the minute history of the evolution of the bicycle. It is enough to say that the bicycle probably came into use about the year 1808 when there appeared in Paris the original "dandy or hobby horse" wheel which had somewhat the same shape as the present safety, except that there was no gearing or motive power. The seat was placed near the center of the frame holding the two wheels in tact, and was just high enough from the ground so that the operator could push himself along by touching his feet to the ground.

From that early date the bicycle has passed through a period of evolution of the most varied kind which forms one of the most interesting chapters in the history of mechanics. Sometime about 1840 a clever mechanic in Scotland, Kirkpatrick Macmillan by name, succeeded in attaching a motive power to the original "dandy or hobby horse" and by means of cranks and pedals, was able to show to the world a wheel which could be propelled without touching the toes to the ground and thus push the machine along. It was a great marvel and it is stated that Macmillan was at one time in Glasgow taken into custody for causing a crowd to collect and thus creating an obstruction in the street.

It was not until 1888 that the safety bicycle as we now understand it was brought into use, and almost immediately the cushion and pneumatic tires were invented. It is an interesting bit of history to trace the evolution of the bicycle through its many improvements.

The introduction of the bicycle as we now understand it, has been so marvelous that it would be difficult to go to any civilized part of the world and not encounter one of the modern up-to-date pneumatic safety bicycles.

Cyclists in Germany are blessed with what are called "sand-papered" roads; and, together with beautiful scenery, it is indeed a great pleasure to ride. However, in some cities of that empire the police regulations are very exacting and troublesome. In some cities it is necessary to have what might be termed a license to ride a wheel. Before being permitted to ride a wheel upon the streets it is necessary to appear before a police board of examiners who determine on your proficiency as a wheelman. If you are accepted and pass the examination, you are given a card bearing your full name and address and the full title and seal of the police commission. This card is to be carried at all times, in order that you may be inspected at any time a policeman may take it into his head to do so. The restrictions are rigidly enforced and it is hardly worth the while to undertake to become a licensed wheelman. The red-tape is ridiculous.

Under the laws of France every owner of a bicycle must have it registered. A recent census in that country showed 329,818 wheels in use, an increase of 73,734 over the previous year. These statistics are for only one out of many countries. It would be interesting to see a similar census taken in England, and America, as well as other civilized countries of the world. Considering the population of France, and the number of bicycles in that country, it will be seen that one in about every one hundred persons living rides a wheel. It is believed that the ratio of wheelmen to population in England and America would be even greater. In cities the ratio would be much greater; in some localities the proportion is extremely small. I have in mind one city of a number of thousand inhabitants where one out of every ten rides a wheel. It is believed that this same proportion would hold true in many cities in the United States. It is known that there are over a million wheels in use in the United States.

The time is not far distant when all classes of society will rely upon the wheel for a rapid, convenient, enjoyable and healthful method of transportation. In a recent issue of *Judge* is an ingenious bit of prophecy that glances into the future. The scene is laid in the year 1997. In the commodious museum our highly specialized and scientifically developed descendants are spinning along on their bicycles over the asphalt floors. Some are whirling along by themselves, looking at the strange sights; but most of the crowd is following the eloquent professor who rides around the hall on a wheel whose model has not yet been dreamed of and explains the marvels of the exhibition. Stopping before a wild-eyed and timid-looking man who is seated on an elevated platform the professor holds forth as follows:

"Here, ladies and gentlmen, you see the greatest marvel of the age, and see what will probably be known to your descendants merely as a tradition. This man, who was born and reared on the almost inaccessible slopes of the Rocky mountains and spent his life in wild fastnesses into which none but the most daring bicyclists could penetrate, was finally captured and at a great expense brought here for your entertainment. Ladies and gentlemen, you see before you the last and only living man who knows how to walk. I will now pause for a moment to allow you to purchase photographs of him in the act of walking. Afterward we will proceed to the next platform, where I will explain to you all about the stuffed horse, and tell you some of the characteristics of this wonderful animal that flourished from the preglacial period to within fifty years of the present time."

GOOD ROADS AND SIDE PATHS.

What goes to make up a beautiful city, or a beautiful farming country more than good roads. The use of the bicycle should be encouraged because it has come to stay, and because its permanence will in time insure good streets in our cities and good roads in the country. Improvements of the road means improvement of the property, and it is to the interest of every property holder to insist that good roads are made and maintained. The bicycle will injure no road; it is a roadmaker itself, as will be observed where any number of wheels have used a certain road; the center of the road will be in poor condition, while the side where the wheels have run, will be packed and even.

Before the Michigan legislature last session there was a bill to put a small tax upon each wheel for the purpose of constructing and maintaining sidepaths. I do not believe there would be any objection to such a law by the wheelmen, and there certainly should not be by others. However, it was surprising to hear the objections made by farmers, that it would injure their property, et cetera. It would certainly have the opposite effect; it would increase the value of all farming districts. The legislature would not even pass a law to protect the side-paths constructed by those interested in country wheeling. The time will soon come, however, when there will be side-paths on every country road. And, before many years, there will be a general revolution in the road itself. Care will be taken in its construction, and pride taken in keeping it in good wheeling condition, not only for bicycles but for other vehicles.

BICYCLE ORDINANCES AND LAWS.

Bicycling should be regulated and restricted by ordinance and State law, but it is to be hoped that prejudice will not enter into the formation of such regulations.

A city ordinance regulating the use of wheels is just, and will be respected by most wheelers; of course there are a certain few who seem to delight in evading the laws of society, but there is a remedy for such offenders.

In making a city ordinance, fairness to all parties concerned should prevail, special privileges should be shown to none. An ordinance which requires a bell and lantern is applicable in certain instances. But why should a wheel be required to carry a bell and a lantern any more than any other vehicle that runs in the road? When an ordinance requires all wheels to run in the highway, it is discrimination to say that such wheels shall carry a bell at all times of the day and night, and to carry a lantern after sundown.

The rate of speed in cities should be regulated, the less speed the thicker the population. In the heart of cities where people are most likely to be encountered, the speed should not exceed eight or ten miles per hour; in other portions of the city outside the business limit the speed should not exceed twelve miles per hour. The regulation of the speed is just as much for the protection of the rider as the pedestrian.

In my mind the road is the place for the wheel where the roads are good, but in most cities the roads are not good and are not passable during a greater portion of the year. In such instances, it is well enough to permit bicyclists to ride on the sidewalk at such times and places where the road is not passable. While the bicycle in one sense is a vehicle, it does not stand to reason that it should be legislated off the sidewalk at all times, more than baby-cabs, children's carts, velocipedes, et cetera. But, where the wheel is given the use of the sidewalk, too much care cannot be taken to protect both the cyclist and pedestrian. The rate of speed should not be over six miles per hour, bells should be required at all times, and lanterns employed as signals after the dusk of evening has set in.

In cities of some size where the streets are nearly all paved, the cyclist does not care to use the sidewalk as the street is much better. As a matter of fact it is in many cities impracticable to use the sidewalk, because of the curb at the end of each block. The only time the streets are not passable is during or just after a heavy rain; and, then, it is not so bad, if the streets are properly drained.

The question of

WHAT TO DO WITH THE SCORCHER,

Is one which should receive special attention in regulating the use of wheels. The scorcher is a criminal of society and should be dealt with to the fullest extent of the law. It makes no difference what regulations are placed upon wheeling, there will be a *few* daring, reckless and willful wheelmen who can be rightfully termed "scorchers," and should be punished as would any other criminal of society. No one would think of prohibiting any pedestrian from appearing upon the streets or sidewalk, just because there are a certain *few* who violate the law and order of a community; it would be absurd. It would be ust as absurd to deprive well-intending cyclists the use of the walks and streets ust because of a few who persist in disturbing the peace of the public. I will again repeat that there is no law too severe for that criminal of society, the "scorcher;" he can be placed in the same catagory as the assaulter, the murderer, et cetera, and should be punished accordingly. A few severe examples will be sufficient to reduce scorching to a minimum.

SCORCHING MAY BE CRIMINAL.

Accidents to cyclists are comparatively few when wheeling is practiced as it should be in moderation; but, here it becomes necessary again to deal with the scorcher. The evil of careless cycling is of considerable import, and should receive legal attention whenever the case requires.

It has been claimed that before a scorcher could be prosecuted for feloniously wounding a pedestrian or another cyclist, the intent of the action would need to be established. **Chief Justice Foster**, of England, likens it to the following case: "If a man were to ride a horse at a great rate of speed into a crowd of pedestrians, and the animal were to thus seriously injure one or more persons, the rider would be liable to punishment for a felony, even though he had been possessed of no individual malice against any person. It is a social or general malice complained of."

If a few of these so-called scorchers were to be prosecuted in the manner above suggested, and the fact of such prosecution was widely published, it would deter most of the scorchers from such carelessness and disregard for human life and happiness.

FROM A BUSINESS STANDPOINT.

The utility of the wheel, has been proved, and can be classed with the rapid transit of today. One need but to watch the hundreds of working men, women and children going to and from their work, in order to be satisfied that its utility in a business life is indispensable. It makes the distance from home to work shorter and a pastime instead of the drudgery of the day's work.

In a large city the utility of the wheel is more apparent, it not only economizes time, but is economy from a financial standpoint; it saves street car tickets, saves expensive and unsatisfactory lunches down town, and gives the rider more time to rest during the noon hour.

FOR THE PHYSICIAN.

For the physician the wheel is invaluable, and every physician should be able to ride. It is often very important that there be no delay in the arrival of the physician; and, if he rides a wheel, he can give an urgent call almost immediate attention where, otherwise, it would be necessary for him to walk or wait for his carriage to be brought to the door.

Every convenience necessary has been made for the physician. Provision has been made whereby the medicine case, obstetrical case, et cetera, are attached to the wheel in a safe and convenient manner. These cases are well made, and can be used on the wheel or carried in the hand. In fact they are combination hand and wheel bags or cases.

PARCEL DELIVERY WAGONS.

In cities where it is the custom to deliver every little item purchased, it is essential to have some rapid and economical way by which these parcels may be delivered. In most cities will be seen a little box attached to a pneumatic tire tricycle; the operator sitting in front of the box on a regular bicycle seat; the one wheel in front with stearing apparatus the same as in any bicycle and the two wheels behind, to which the box is attached. This method of delivery is very rapid and satisfactory and much more economical than supporting a horse and large wagon.

THE CARRYCYCLE.

One of the latest uses to which the bicycle is put is illustrated in the carrycycle which is a combination of the push-chair and the bicycle. There are many people who get the fresh outdoor air only by means of such vehicles; they could not stand the jar or jolt of a carriage or other such vehicle. But, here is a vehicle which is carefully made, ball-bearing, pneumatic tire, and suited in every particular for an invalid. It has the advantage that the propulsion is a pleasure to the operator as well as the invalid. The machine is made with a low gear and takes but little power to propel it. It is made like a tricycle, the two wheels in front; the invalid's chair is in front over the two wheels, the operator sits on a regular bicycle seat over the rear wheel. This invention is certainly a great improvement over the old push-chair, having every advantage of the old chair and the advantage of being a pleasure to the operator with considerable less labor in its propulsion.

THE RED CROSS CORPS.

The frequent accidents to wheelmen in racing and especially to those riding wheels on the crowded boulevard and streets of Chicago, has been the means of organizing Red Cross Corps of Wheelmen. It is regularly and permanently organized and will be the means of saving some lives. The members of the corps are drilled in the service, and are expected to render intelligent aid to the sufferer until the arrival of a physician or an ambulance. It would be well to establish such a corps in every city of any size where accidents happen daily.

BICYCLES IN WAR.

Bicycles have been found by practical usage to be a very valuable military accessory. The aggressive Japanese was probably the first nation to use them in actual service and found them exceedingly useful in reconnoitering and skirmishing. The movements on the enemy were rapid and disastrous; and, after the object had been accomplished the assailants were out of the way before the enemy could get into position to attack. A very small detachment of cyclists could do great damage to a large detachment with little loss to their numbers.

It was found, however, that the regular bicycle was not applicable to military service, and a folding wheel was invented; one the wheels of which could be folded together, in a few seconds, and strapped to the back of the soldier, in a neat package weighing about twenty-eight pounds. These folding wheels were a little heavier and built with special reference to durability, and could be taken by the soldier over fences, bridges, walls, in fact any place where the soldier could pass himself. In the march the wheels are especially valuable, because of the great distance the soldier is able to cover with no more effort than in walking.

The use of wheels in the European armies is becoming quite extensive. The demand for this specially military wheel has become so great that factories in Europe are devoting their entire time to the manufacture of them. One factory it is estimated will turn out 50,000 wheels annually, and are now behind on their orders.

With the advent of the bicycle in military affairs, comes the perplexing question of dealing with them. Here again the faithful dog is suggested. It is understood that in Germany dogs are being trained to dismount soldiers riding wheels. Wheelmen all know what damage a very small dog can do, and it is easily understood how a large ugly Danish dog could play havock with soldier cyclists. The dogs are taught to attack only the soldiers wearing the enemies uniform. There will be other ways thought of to cripple, dismount or in other ways unequippe the soldier cyclist.

[TO BE CONTINUED.]

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, OCTOBER 18, 1897.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR GUY L. KIEFER read a paper entitled "The Value of the Isolation of Communicable Diseases." (See page 112.)

DOCTOR S. P. DUFFIELD: I very cordially endorse that paper. It is a very satisfactory paper to me, but its recommendations are very hard to carry out practically in everyday life. Had it not been for Harper Hospital in the city of Detroit last winter when we had an epidemic of diphtheria I do not know what the Board of Health would have done. I kept sending patients to the hospital until word came that they could not take another case. The misfortune in many of these cases is in the tenement house. You meet a mother with a baby who is probably only eight or nine months old, taken down suddenly with scarlet fever or diphtheria. That mother will not allow that baby to go to the hospital, and it is in these cases we find difficulty in isolating the patient on the ground that the mother cannot accompany it. The hospital authorities have reasons for excluding the mother from attendance on the child. If in this city we could have connected with some hospital a series of cottages in which the mother could go with the child there would be no trouble about taking it to such a place. The father would be perfectly willing. I have talked with mechanics and they are perfectly willing to allow the child to be taken provided the mother is permitted to accompany it. In this way the source of infection is removed from the home and thorough disinfection is not necessary. I endorse DOCTOR KIEFER thoroughly when he says we should have isolation hospitals which should be arranged to take the mother with the young child, otherwise there are a great many cases in tenement housess that we cannot reach. It is true the ordinance says that "Whenever in their estimation the Board of Health deems it necessary they shall remove a case of small-pox or other contagious disease to the hospital," but that is a difficult thing to do. There is one strange feature about all these epidemics, and it is a little foreign to the subject, yet it has always been a question in my mind, and I would like to throw it out to this society to watch and carry out, that is, that scarlet fever and diphtheria, in a great city like this, act as the two sides of a balance. It is a wonderful thing, but I have noted that when we have a rise in the number of cases of diphtheria the number of cases of scarlet fever will fall, and when scarlet fever rises diphtheria will fall. There is something in the etiology of these two diseases which I cannot explain, although I have studied it for over ten years. Why it is that scarlet fever should go down while diphtheria is on the rise is something I have not been able to find any reason for unless one is partially the antidote of the other. I find the antitoxin of great value in epidemics of diphtheria. As DOCTOR KIEFER says, we do not get the case before it has already communicated its virus to some one else, and all we can do is to hedge in this case and by thorough disinfection prevent a great epidemic. You know that my idea has always been cottage hospitals, and I still hold to that. We have a large hospital now which is practically valuless for a variety of diseases, and it would be much better to have it converted into cottages.

DOCTOR LONGYEAR: DOCTOR DUFFIELD has expressed pretty much the idea of the Board of Health on this subject. The great need in a city like this is for some hospital where the sick child can be taken and the mother allowed to accompany it. The people living in tenement houses when afflicted with communicable diseases are often among the most ignorant we have to deal with and they usually give us the most trouble in our attempts to remove them, and when a case breaks out in such a house the disease cannot be isolated. You may keep the patient in a room with no one but itself and the mother present, and have everything theoretically isolated but practically isolation will not be complete owing to the construction of the house. I think it is due to such surroundings that these diseases are constantly with us. If we could isolate every patient completely, as DOCTOR KIEFER says in his admirable paper, we would soon stamp it out, but we cannot do that in such surroundings. If we had to do with these diseases in well-to-do families we could put the child up in a top story room with the nurse away from the other members of the family, and in this way we would soon obviate contagion. DOCTOR DUFFIELD's idea of the cottage hospital is correct, and if we could arrange for such a system it would go a great way toward stamping out the disease. DOCTOR KIEFER has presented the subject in such an admirable way that I think it is a paper that should be read not only by the physicians of the city but by the laity as well.

DOCTOR MCCLINTOCK: One thing in the paper I would like to mention, especially in the light of DOCTOR LONGYEAR's remark that the paper be published so that the laity might read it, and that is isolation in the case of tuberculosis. I do not think it is necessary or advisable, and it seems to me that the facts now known show that it is not. A report from the Adirondack Asylum for Tuberculosis published about a year ago showed that, taken a number of patients and the stage of the disease in which they were in, it was a safer place to live in than our ordinary houses. A great deal has been published along that line, and it would seem to me inadvisable to advocate isolation in the case of tuberculosis. Segregation with the meagre facilities provided in such a hospital would slowly bring about their death. With that exception I think the paper is an excellent one. Having had something to do with this disease I have observed the great interest patients take to prevent any possibility of the spread of the disease. If you show them that reinfection is a great danger patients take pains to see that there is no danger of communicating the disease to other people.

DOCTOR INGLIS: The keynote of the whole discussion is in the last remark of DOCTOR LONGYEAR that DOCTOR KIEFER's paper ought to be made public for the instruction of the laity. It is useless to hold the Common Council responsible for the erection of an isolation hospital. We live today in an age in which property is valued more highly than human life. When the people can be educated to look upon human life as of more value than money and things then they will not only see the need of isolation hospitals but will be willing to expend the necessary money. The money which will be needed is considerable. I agree with DOCTOR MCCLINTOCK in taking exception to DOCTOR KIEFER's proposal to isolate all tubercular patients, but leaving these out the proper isolation of the other recognized contagious and infectious diseases involves much more than the building and maintenance of isolation hospitals: it involves that the isolated family shall receive from the community all the usual necessities of life and also this that the income of the family shall be paid by the community if the wage earners are forbidden by the community to earn in the usual ways. Until the community ceases to punish (by cutting off the family income) the family for that which is a misfortune and in no wise a fault,—until then no one can blame people for attempting to evade the quarantine, no one can blame them for deliberately failing to make known the existence of disease dangerous to the public health, and until then no real isolation will ever become possible. The family is isolated not for its own good but for that of the public; there is absolute justice in the public rendering full compensation and anything short of this is injustice as well as unwisdom.

DOCTOR MINER: I was somewhat surprised to hear the remarks of DOCTOR MCCLINTOCK. While it is true that in the Adirondack Asylum the mortality is very low it is also a fact that cases of tuberculosis sent to the Adirondacks are usually of the first stage and tuberculosis is not very infectious during the first stage when the patient is exposed to a high altitude and the subject of proper treatment, but I certainly think that the profession today consider the cottage hospital plan the best for the treatment of tuberculosis. Given a person with this disease who remains at home with his family. Here you have the members of that family inheriting the tendency to tuberculosis. They inherit that nonresisting force that exposes them to the invasion of the tubercle bacillus and they are not able to resist the ingress to the disease when the tubercle bacilli is deposited along the respiratory tract. The hospital plan of treatment isolates the patient from the other members of the family, and insures the beneficial effects of outdoor exercise in a high altitude, desideratums that are not otherwise practical. I certainly think the cottage plan is the most desirable plan of treatment. I have looked forward to the time when cottage hospitals for the treatment of tuberculous patients would be in vogue throughout the United States.

Doctor G. H. Sherman: The essential point to get at in isolating cases of communicable diseases, and especially those of short duration such as scarlet fever and diphtheria, is to find the patient. Every practicing physician knows the difficulties that arise when he attempts to placard a house and the censure suffered when he suggests the idea of quarantine. Now, then, the practical question presents, How can we get hold of the mild case, the one that spreads the disease? From what attention I have given the subject I have come to the conclusion that some people think more of wealth than they do of human life, and these people will always to a greater or less extent hide away the cases from the public authorities. I very much agree with **Doctor Kiefer** that these communicable diseases of short duration could be entirely eradicated provided we could isolate the cases. We cannot do that unless we treat the isolated family honestly and fairly. The man who is isolated in consequence of having a contagious disease in his family is serving the community, and any community that does not compensate that man is not treating him fairly.

Doctor Longyear: I purposely avoided saying anything about the isolation of tuberculosis in my remarks because the Board of Health have that subject under consideration at the request of the State Board of Health. There is no doubt but that there is a vast difference between the theoretical and practical isolation of tuberculosis. **Doctor Sherman's** suggestion that we compensate the head of the family for serving the State leads to some interesting questions, and perhaps as a matter of clear justice his position is correct, but I think when you come down to the practical workings of it, and especially when you have an epidemic of scarlatina, some of these families would hustle to have a little scarlatina in their families.

Doctor Kiefer: I have very little to say in conclusion. I am very glad that the paper brought out so general a discussion, and am particularly pleased with that phase of it which touches on the subject of tuberculosis. I want to confess that I was not so sound on that particular point as I perhaps should be owing to the fact that my experience is not as great as it ought to be. I believe that cases of tuberculosis should be isolated and I think they can be.

STATED MEETING, DECEMBER 6, 1897.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

Doctor George Duffield read a paper entitled "Guaiacol in the Treatment of Typhoid Fever." (See page 102).

Doctor Chittick: A few weeks ago I had the pleasure, in connection with another gentleman, of opening a discussion on typhoid fever before the Academy of Medicine, and in the discussion of the paper he brought out the main points in the paper to which we have just listened. I recognized at once the principle of his method, and made the statement that when I went on duty at Harper Hospital I would give his plan of treatment a thorough trial because I believe it is the best. I have used the WOODBRIDGE method and am not an advocate of it. I do not speak against it, let it be understood, because I find it is advocated by a great many men who know what they are talking about. I am dissatisfied with it personally. It is difficult to administer the tablets, owing to their having to be given so frequently. The reason I do not give it is because I do not find it any better than my former treatment, which was aristol as an intestinal antiseptic. I have been in the habit of giving acetanilid in small doses as an antipyretic, fortifying it with codeine (alkaloid) and sometimes with quinia (alkaloid). I have talked with some members of the profession who have used guaiacol, and at least one gentleman is afraid of it on account of its depressing effects. If we get a bad effect in one case I do not think we should stop the remedy, but we should be warned to give it gradually. I should recommend the use of the remedy in the manner advised in the paper. I have used it in one case of pneumonia complicated with diphtheria. I certainly believe the patient would otherwise have gone into the typhoid state, and I venture to say the guaiacol hastened the boy's recovery. I have a patient who is a great sufferer from facial neuralgia. She has used chloral and a number of other remedies with very little success. I thought I would use guaiacol, and prescribed ten drops in an ounce of alcohol, advising her to apply it lightly over the affected surface, and she has derived marked benefit from it. I have great confidence in the observations of DOCTOR DUFFIELD, knowing how careful he is, and shall use this treatment as occasion arises.

DOCTOR LONGYEAR: I am not competent to discuss the question inasmuch as I have not had any experience with the use of guaiacol, excepting its use internally for its antiseptic effect. I think its results as applied externally are remarkable. It is a new idea to me so that it comes as a surprise. It strikes me very favorably if it will do as these records show it has done, for in this way it will obviate the use of cold baths. I think it is quite remarkable that the remedy exerts this influence when applied externally, but not when given internally. I have used the carbonate of guaiacol internally, and have not noticed any reduction of temperature from its use. The doctor spoke of the fact of the odor of the guaiacol being observed at the time of the postmortem in the abdominal cavity, and also in the intestines, as an evidence of its having passed through the intestinal canal. I think it is a matter of record that when you are administering guaiacol that you can smell it from the patient. The whole system becomes saturated with it. I remember one case in which five grains were administered internally, and the nurse said she could smell it from the feet of the patient shortly afterward. Another point which I have noticed in connection with its administration is that it produced an excessive secretion from the salivary and buccal glands.

DOCTOR A. N. COLLINS: I have had no experience in the use of the guaiacol externally. I was much pleased with the doctor's paper, and think the facts as recorded by him are very valuable for us to know. I have had some experience with the WOODBRIDGE treatment in typhoid, and have not found my patients able to take it without producing great irritation of the stomach when given as advised by DOCTOR WOODBRIDGE. I cannot see any indication for podophyllin, and have always believed that the less podophyllin we use in the irritated bowel of the typhoid patient the better would be our results. In the use of acetanilid I have seen evidences of heart weakness from its use. In my experience the use of phenacetine is much more favorable than acetanilid. It quiets the nervous system better. I believe with DOCTOR CHITTICK that it should be fortified with opiates, and I also give strychnia in connection. If we can get the good results as reported by DOCTOR DUFFIELD from the use of guaiacol externally we have a worthy adjuvant in the treatment of typhoid fever.

Doctor Maass: I have had no experience with guaiacol when applied externally in the treatment of typhoid fever. From what I can learn it seems to me that the use of guaiacol is superior to the Brand treatment in typhoid states. The main advantage of this remedy will be that it cleans the blood from toxemia and at the same time reduces the temperature. I think it would be a great advantage if we could get our patients to drink a great deal of water during the emloyment of guaiacol. The Brand treatment reduces temperature without producing sweat.

Doctor Yates: While interne at Saint Mary's Hospital we had some experience with guaiacol, and while not very extensive it was not very favorable. I found it to be a very capricious drug in this way, that in giving it in ten minim doses with a temperature of 105°, in less than four hours the temperature went a little less than 95°. Not only sweating ensued but almost collapse, so much so that we had to resort to active stimulation, and actually thought the man would die. We repeated the remedy a second time giving a much smaller dose, and it again had the same effect. My own experience with the drug would make me suspicious of its use. I have used the Woodbridge treatment in sixteen of my cases and the results have been very happy. I do not think we get the irritating effect of podophyllin in the Woodbridge tablets on account of the small doses which they contain, there being, I believe, only one-nine-hundred-and-sixtieth of a grain in each dose. I do not give acetanilid on account of its depressing effect, which is due to the fact that it deoxygenizes the blood.

Doctor H. O. Walker: Are the charts complete histories of the cases? Does the treatment cut short the disease? These records show that the temperature was reduced to an enormous extent in the course of three hours. It would hardly seem possible that in so short a time it would produce such a marked antipyretic and antiseptic effect. From the great distribution of bacteria which prevails in typhoid fever it would hardly seem possible that one could lessen their number in such a short period. My experience with guaiacol is limited to the carbonate in tubercular affections not only of the lungs but also of the bones. I have thought in some instances that its use was beneficial.

Doctor Tibbals: I have had no personal experience with the use of guaiacol externally. I was therefore very glad to hear Doctor Duffield's paper in which he spoke of the use of guaiacol in the reduction of temperature. I shall be glad to test its value when occasion offers. So far I have not gotten any satisfactory results from the Woodbridge treatment in typhoid fever when guaiacol is given internally. It produces a very unpleasant effect, disturbing the stomach and producing eructations which are very annoying to the patient. I have a medical friend in Ironwood, Michigan, where some time ago they had an epidemic of typhoid fever. Naturally the doctor had an extensive experience in that disease. The epidemic attracted so much attention that Doctor Woodbridge went to Ironwood and asked the privilege of treating some of the cases, and I do not believe there is a doctor in Ironwood today that has any faith in the Woodbridge treatment. The treatment administered by the doctors there was to give twenty-five grains of quinine by suppositories and the application of cold, and the plan adopted with the hardy men was to run a piece of ice up and down the spinal column.

Doctor Warren: I would like to ask Doctor Duffield what is the physiological action of the drug in thus reducing the temperature so markedly? I believe in guaiacol as an intestinal antiseptic, and would like to know more about it when applied externally.

Doctor H. D. Jenks: I used guaiacol in one case of pneumonia which Doctor Chittick mentions, a case of ordinary lobar pneumonia, applying it locally at Doctor Duffield's suggestion. It was in a boy of thirteen, and the area painted over was 3x3 on the lower part of the chest. I had hoped to get results of some kind, but the temperature, which had been running about 105°, dropped about a degree, and on another application stayed about the same. It was of so little value in that case that I stopped it after two applications. It had the unpleasant effect of causing a blister on the chest.

Doctor G. H. Sherman: I have used protonuclein in cases of typhoid fever and found it of marked benefit as an antipyretic.

Doctor Biddle: I simply want to call the attention of the society in regard to one of the points mentioned by **Doctor Longyear**, namely, that of ptyalism. This is noticed when guaiacol is given internally as well as externally. There is constant spitting. The odor is particularly perceptible.

Doctor Duffield: **Doctor Chittick** spoke of acetanilid as a medicine in typhoid fever, and where I have used it I have since wished I had not. Even phenacetine given in small doses produces rapid depression and sometimes collapse, and they are both remedies which have to be carefully administered. I do not use either now, confining myself to the use of guaiacol. **Doctor Maass** speaks of giving water, and his remark is to the point. We do not give large draughts of water before the patient takes the medicine but they are always anxious for water after the sweating stage has passed, and I am not surprised that they are, considering the amount of water that flows out through the skin. The brain is never affected even while the chill is on; there is no cyanosis but they are perfectly content with their condition. As the temperature falls the heart's action goes up and becomes strong and full, showing there is no depression. With reference to the **Woodbridge** treatment I reported some time ago a series of cases, five of which were affected with ptyalism. There is no ptyalism, no spitting and no special discomfort when guaiacol is administered externally. Thymol has been used locally in connection with guaiacol, but it produces a great deal of irritation. Guaiacol has no irritating effect. Podophyllin is only given where the calomel does not act promptly so as to pour out the bile into the intestinal tube. It is given in very minute doses. The bowels are flushed with Apenta or Rubinat waters.

STATED MEETING, DECEMBER 20, 1897.

The President, ANDREW P. BIDDLE, M. D., in the Chair.

Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor A. N. Collins read a paper entitled "How shall we Treat Puerperal Convulsions? with a Report of Cases." (See page 105.)

Doctor Longyear: The subject is one that has been of deep interest to me for many years. I believe that the highest duty of the physician is in the practice of preventive medicine, and I think there is nothing in the domain of medicine in which we will find the practice of prevention of more value than in these cases. I agree with the essayist in his deductions with regard to treatment, and that the time to treat these cases is before the convulsions have occurred. If they occur when labor has set in we have to make rapid delivery, and the chances are then altogether against the mother and as much against the child as well, so that if we can get at these cases at the very beginning of the threatened symptoms and deliver the woman, in the majority of cases, I think ninety per cent. of them, we can save both mother and child. The physician should keep close watch of each patient that comes under his care, the urine should be examined at intervals during the last three months, samples being sent to the physician every two weeks, and on the appearance of albumin the patient should be put upon a thorough course of treatment. The quantity and quality of the urine, as the doctor has said, should be kept close watch of. Because a woman has albumin in her urine during pregnancy does not of itself indicate anything serious. If the quantity passed in twenty-four hours is sufficiently large and contains a fair amount of urea there is no great cause for alarm, but it should be watched from day to day and when the urea excreted begins to decrease the danger point will soon be reached, and such a patient, if remedies fail to change the condition, should be delivered. If after the seventh month so much the better, and I should use every effort to get them up to the point of viability of the child, but when any of the premonitory symptoms mentioned by the essayist have presented themselves we should not hesitate at all, even if the child is not viable, because if we do we know the consequences. Our first duty is toward the mother. The theory of pressure causing trouble with the kidneys I doubt very much indeed. All of us who have to do with abdominal tumors see them cause a good deal more pressure than a gravid uterus, and we rarely find convulsions. I do not believe pressure has anything to do with it. It is some change produced, probably more through the nervous system, and a lack of excretion of waste products from the system. So far we know very little about that as a matter of fact. Milk diet has been mentioned. I endorse the milk diet in these cases with one precaution—the milk diet should be accompanied always with saline cathartics in daily doses sufficient to keep the bowels well open. Now I believe there are two kinds of convulsions occurring in pregnant women. The majority of convulsions are due to or accompanied with renal difficulties, and there is another class which undoubtedly take place without any renal insufficiency, in which there is no albumin in the urine or any other evidences of renal trouble. The latter are due to reflex nervous disturbances. In conclusion I would say, that in cases of threatened puerperal convulsions, in which urgent treatment is demanded that bleeding is one of the most useful of the lost arts. I find it extremely useful in warding off immediately dangerous symptoms.

Doctor Carstens: It seems to me that nowadays we see fewer cases of puerperal convulsions than we formerly did, and I believe it is due to the care exercised in examining women and diagnosing the case as one that will probably have puerperal convulsions and instigating the proper treatment before the appearance of the convulsions. There are cases which we can jog along and save the child, but we have to be very careful and not allow the condition to progress so far that the woman will have convulsions and be perhaps beyond all help. It is perfectly surprising how some patients will have albumin one day and the next day the urine will be free from albumin. In these cases I strongly advocate effort to save the child but our first duty is to save the mother. As to pressure causing convulsions in pregnancy it has absolutely nothing to do with their causation. It was thought that the pregnant uterus pressed on the ureters but that idea is wrong. It is due to reflex disturbances of the sympathetic system or of the solar plexus. The only point I wish to make is that a woman who has had albumin in the urine with her first child should be most carefully watched, and watched early in any future pregnancy for unfavorable symptoms, and one of the most serious symptoms is pigmentosa retinitis.

Doctor Hitchcock: I recall two cases occurring in my own practice in which albumin appeared late in pregnancy and both of which went to full term. In the first case the urine was clear at the first examination, but in the last month of pregnancy a large quantity of albumin appeared. I adopted the plan of eliminative treatment and allowed pregnancy to go on. Delivery occurred according to the schedule given me by the patient. I fully expected to have eclampsia in this case. The patient was a primipara, and is in excellent health today, but I should fear very greatly if that patient were to become pregnant again. I strongly advised against another pregnancy. After delivery she developed anemic symptoms and the urea was quite small in amount. The albumin persisted as before confinement. The eyes were examined but the optical illusions were not present. She was under treatment for six months, Basham's mixture being the remedy used, and was finally restored to excellent health The other case was one in which I examined the urine about the latter part of pregnancy. There was not much albumin present and she went to full term also. The albumin persisted for three months after confinement after which it entirely disappeared.

Doctor Metcalf: I wish to compliment the essayist on the careful presentation of this most important subject. I also wish to say that emptying the uterus does not always prevent convulsions. I have seen three cases with convulsions occurring in which the uterus was emptied naturally. The temperature before death reached 108°.

Doctor F. B. Walker: I have only a word to say with regard to the choice of instruments spoken of by tho doctor. He referred to the use of the hollow catheter. It seems to me that it would be more in line with aseptic measures to use a solid bougie.

Doctor F. L. Newman: Doctor Collins mentioned in his paper two remedies that are usually recommended in the text-books, and are very often employed in these cases, namely, opium and digitalis. I think both of them are dangerous drugs to use in these cases. When the arterial tension is extremely high we would naturally suppose that a drug like digitalis would prove dangerous, and my experience with morphine in these cases has been rather disastrous. In three cases with terrific headache I administered morphine hypodermically. In every one of them it simply had the effect of precipitating the convulsion.

Doctor Collins: I thank the members for their kind reception of the paper. I am satisfied in my own mind that there is some obnoxious material present in the body in these cases, and that pressure has a good deal to do with the retention of this something and causes the convulsions. I think we have a mixed cause, pressure on the blood-vessels and retention of poison. In regard to tumors. They are usually of slow growth, and fibroid tumors particularly take on the position and would produce conditions more nearly approaching pregnancy than any others. The system becomes accustomed to these tumors, and I think the argument that is advanced for these tumors not causing albuminuria is not a very good one. There is a theory, however, that I believe there is a great deal in. I believe this poison is produced by imperfect action of the liver. I assisted Doctor Metcalf in the case reported by him, and it is difficult to explain why the convulsions should have come on three days after delivery. I have no doubt the convulsions were due to retention of urea in the system.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, SEPTEMBER 2, 1897.

The President, GEORGE E. FROTHINGHAM, Senior, M. D., in the Chair.
Reported by J. A. PATTON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor M. V. Meddaugh read a paper entitled "The True Basis of Scientific Medicine." (See page 109.)

Doctor Inglis: We owe our gratitude to the doctor for having ventured to bring before us the larger philosophical questions which are usually omitted while we devote our attention to the details of pathology or therapeutics as they affect our practical everyday work. While we have enjoyed the doctor's paper I cannot entirely agree with his conclusions. The hope that we are on the verge of great discoveries which will unlock the mysteries of life is but natural, and yet in spite of the enthusiastic search and the great advances which astonish us the fact still remains that the word "unknowable" has not been replaced by the word "known." The signpost still stands with the word "unknowable." It has been shoved a little farther along but it is still there. The problem of the relation of mind to matter—the problem of life—is still as t always has been, insoluble, and optimist as I am, I am still pessimist enough o believe that so it will always remain. The investigation of mental phenomena, of the influence of mind upon body, and of mind upon mind are truly

THE PROGNOSTICATION OF SEX.

THE unguarded recent reference to the influence of nutrition upon the determination of sex fell upon the popular ear with the startling effect of a new discovery. The alleged claim that all previous theories had proven false, that only the woman had any influence in determining sex. and that either sex might be produced at will has, according to a later report, caused **PROFESSOR SCHENCK** to repudiate all responsibility of the interview. This is one of the effects that almost invariably follows the premature publication of medical discoveries, especially in the lay press. Other and more serious results are those that follow their misdirected and perverted application, by which the whole science of medicine is brought into disrepute. Circumstances of this kind are largely responsible for insinuations such as was recently cast at a distinguished gathering of the law profession in Chicago, when a prominent New York jurist exclaimed that "The professions of medicine and theology are racked by progress."

Whatever may have been the morsel of truth intended to have been conveyed to the reporter, the incongruities suggested by the frequent occurrence of twins of unlike sex and by many historical records, will require a more reliable explanation than the lay press affords. Whether or no the subtile causes of sex will ever be determined only the curiosity and ingenuity of man can answer. For want of a better hypothesis they may be said to act in harmony with the law of "the survival of the fittest." The probability of their control is of far greater moment. It is very certain, however, that under no known constitution of society will this be possible to any considerable extent.

The prognostication of sex is a more modest question and has been studied with some degree of apparent success. Certain characteristics of the parents, espicially their mental and physical vigor or excitement and their complexion, have been observed in many instance to be at least coincidental with certain expected results. After a series of these observations in one hundred and forty cases **DOCTOR DANIEL E. KEEFE** has recorded his results in the following rules published in the last issue of *The New England Medical Monthly*: "(a) When both father and mother are matured; that is, over twenty years; if the vigor of the husband is relatively greater than the wife's, expect a female child. (b) When, with all other conditions the same as in a, only that the mother is relatively more vigorous than the father, expect a boy. (c) When the parents are relatively of equal vigor, expect an equal division of the children, as to sex, for nature seeks the conservation of the species by equal division of the sexes. If, however, with the vigor the same, the complexion of the mother is dark and the father light, you may rather expect a boy. If on the other hand, the father is dark and the mother of light complexion, rather lean toward a girl. (d) When one of the parents, although apparently as vigorous as the other, but is comparatively either immature or senile, consider the one nearest the age of stalwart maturity as the more vigorous. For example: a wife sixteen to eighteen, or forty-two or over, with a husband twenty-five to forty, prognosticate a daughter. On the other hand, with a husband sixteen to twenty, or forty-eight or over, and a wife twenty to thirty-five, expect a male child."

To the doctor's credit it should be added that to the rules given he admits the probability of many exceptions. Some he would account for by inaccurate observations while others are inexplicable without reference to other factors not heretofore considered. The analysis of the cases reported is ingenious and offers an incentive to further observation along this line.

ANNOTATIONS.

ANOTHER SURGICAL FEAT.

Comparable with **Schlatter's** celebrated complete excision of the stomach is a case reported by **Frederick Treves** in *The Lancet* for January 29. The patient was a little girl of six years. According to the history related, she had suffered several attacks "marked by vomiting, absolute constipation and distention of the abdomen." The first sickness occurred two days after birth. An alarming attack came on at nine months and two during her fourth year. Following these, cramping pain became an additional symptom. When first seen by the surgeon she presented the condition of idiopathic dilatation of the colon. A conservative attempt was first made to relieve the distention and promote normal peristalsis by the retention of a gum-elastic tube. A laparotomy was performed, a tube measuring twelve inches inserted per anum and the colon fixed to the abdominal wall, preparatory to the establishment of an artificial anus if necessary. As neither tube nor artificial anus proved satisfactory a second operation was performed nine months later. At this sitting the large gut, extending from the splenic flexure to and including the anus, was excised; the transverse colon brought down to the anus and secured by sutures; and finally the abdominal wound closed without drainage. "The child made a speedy and excellent recovery." The term idiopathic has been loosely applied to this class of cases as peritonitis was formerly used to denote even localized inflammations from unknown causes. A closer examination has revealed the presence of tumors, stricture of the intestine and other innerving conditions. In the case reported there was found a congenital narrowing of that portion of the bowel supplied by the inferior mesenteric artery. The junction between it and the colon was abrupt. The walls of the colon were greatly hypertrophied. The diameter of the dilated loop was eight inches. The tremendous character of the operation and its ultimate result presents another striking exhibition of the possibilities in surgery.

THE CAUSE OF SLEEP.

The unfortunate victim of insomnia has reason to deplore our limited knowledge of the cause of sleep. The explanatory theories advanced by the physiologist depend upon the effects of chemical products, nerve cell changes, and cerebral anemia. The agency of the former two is rendered doubtful by both facts and experimental evidence. The latter is at least coincidental, being the natural consequence of the cessation of powerful objective and subjective stimuli. During sleep the circulation, respiration and temperature are all slightly modified, but not to a degree sufficient to justify the conclusion of a causative relation to somnolence. The most marked characteristic of sleep is the abrogation of consciousness. It is also apparently in absolute abeyance in the condition of hypnosis, although the nerves and special senses in both natural sleep and hypnosis continue to transmit impulses and produce reflex movements. Consciousness is aroused by external and internal stimuli, either of which dissipates cerebral anemia. Experiments do not, however, warrant a causal relation between anemia and sleep. Sleep may also follow the monotonous repetition of slight stimuli, as the sound of running water or the monotones of a dull preacher. Consciousness has apparently a closer relation to sleep than anemia or any other known mechanical theory. The question is after all resolved into the speculations of the metaphysician, although its explanation is nevertheless due from the doctor of medicine.

THE OBSTETRICIAN'S RESPONSIBILITY.

The occurrence of eclampsia, referred to in the memoirs of this journal, brings to the obstetrician a degree of responsibility exceeded in no other branch of medical practice. The extreme difficulty of accurately determining and locating the serious lesion renders the prognosis discouragingly uncertain and to that extent must treatment be tentative rather than specific. The possible viability of the child, though of secondary consideration to the mother's safety, is nevertheless a modifying factor of no little importance, and the difficulties attending the situation are thereby increased. Happily these cases are of comparatively rare occurrence. From those into whose care they fall the immediate urgency of the symptoms and the possible consequent effects demand an extreme nicety in judgment. In the light of these considerations Doctor Collins may well be congratulated on account of the fortunate outcome of his two cases.

RECENT PUBLICATIONS.

REVIEWS.

HYPNOTISM AND ITS APPLICATION TO PRACTICAL MEDICINE.*

The sphere of hypnotism has not yet been definitely determined nor its utility generally recognized. This work does not represent a theoretical treatise on hypnosis, although slight reference is made to the degrees of this condition, and from the various observations made deductions are drawn. The book consists mainly of notes of cases upon whom the author has tested the value of hypno-suggestion as a therapeutic agent. It first appeared in the Swedish language. In 1890 the author offered a German edition, of which a Russsan translation appeared in 1893, and now an American. It is the result of the observation of more than three thousand cases, and of the study of an extensive bibliography. The medical letters by Doctor Peterson commend themselves to laymen as well.

*By Otto Georg Wetterstrand, M. D., Member of the Society of Sweedish Physicians at Stockholm; Corresponding Member of the Society for Psychical Research, London; Corresponding Member of the German Society for Psychical Research, Munich; Honorary Member of the American Society for the Study and Cure of Inebriety. Authorized translation (from the German edition) by Henrik G. Peterson, M. D., Member of the Société d'Hypnologie et de Psychologie, Paris, together with Medical Letters on Hypno-suggestion, et cetera, by Henrik G. Petersen, M. D. New York: G. P. Putnam's Sons.

SWEDISH MOVEMENTS OR MEDICAL GYMNASTICS.*

Swedish movements will never become a panacea despite the pretentions of some so-called masters of the art. Their utility as an adjuvant to other therapeutic measures is, however, coming into recognition in this country. Their organization into a rational system, as is manifest in this work, will do much to create a more favorable impression. The work is divided into two parts. The first describes movements in general, their initial positions, then the various kinds in all their complexities. The second part treats of their application to certain diseased conditions. It is evident that beneficial results will depend upon their intelligent use. To this end the book will be found helpful.

*By Doctor T. J. Hartelius, Knight of the North Star Order; Knight of Saint Olaf's Order; Director of the Central Gymnastic Institute of Stockholm, Sweden. Translated by A. B. Olsen, M. D., with introduction and notes by J. H. Kellogg, M. D. Modern Medicine Publishing Company, Battle Creek.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

REMARKS ON THE PROGRESS OF THE ACADEMY OF MEDICINE.*

BY RALPH H. SPENCER, M. D., GRAND RAPIDS, MICHIGAN.
PRESIDENT OF THE GRAND RAPIDS ACADEMY OF MEDICINE.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

ANOTHER year in the history of the Grand Rapids Academy of Medicine having passed, and the work accomplished having been recorded it seems fitting that at this annual meeting we should for a few moments review the work and learn from that review wherein improvement may be made, and whereby the society may become more useful and interesting to its members.

I feel that it is a subject for mutual congratulation that throughout the year the attendence has been so uniformly good, many of the members having made it a duty to attend every meeting of the society when they were in the city. A few members have absented themselves most of the year, and they are the losers. I trust that in the year now opening no member will allow any trivial excuse to prevent his attendence at the meetings, for there is nothing that encourages the presiding officer more than to see a goodly number present. It is much easier to get papers if the essayist feels that he will have a good audience to read before, also prospect of a free discussion.

Another subject for congratulation is the fact that there has been an absence of strife or acrimonious debate between the members during the entire year, a very pleasant contrast when compared with some previous years in the history of this society. The papers presented have in most instances possessed both scientific and literary merit, and I believe would compare very favorably with the productions of other societies throughout the state. There has been a greater diversity of topics presented than in years past due to the fact that an effort has been made to secure papers from members who have not heretofore contributed them. Papers have generally been fairly well discussed, but in this here is a great chance for improvement and I would beg leave to offer the following suggestion, namely, that the President-elect appoint a committee of three to act with him as program committee for six months, and that it be the duty of this committee to meet as soon after the annual meeting as convenient and prepare the program, also assign one or two to lead in the discussion. This plan will give opportunity for the members to come prepared to intelligently discuss the papers on which they are appointed. DOCTOR NICHOLAS SENN has well said—"It required as much preparation to discuss a paper as to write one." The adoption of this suggestion would do away with the necessity of any member speaking three or four times on the same subject as has been allowed during the past.

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*An address delivered at the annual meeting of the GRAND RAPIDS ACADEMY OF MEDICINE, February 7, 1898.

We have been fortunate during the past year in adding to our membership the names of several young physicians, and to them I wish to extend the hand of fellowship and congratulate them on thus early having identified themselves with a medical society, thereby indicating their inclinations to profit by contact with their fellow practitioners, and to live up to the ethics prescribed in our by-laws, which are those of the American Medical Association. I might add in this connection that the *esprit de corps* of our society has improved during the past year and there has been less exploiting of our doings in the newspapers than heretofore, but there is still room for some improvement in this respect. The members of this society should neither seek nor accept the delusive aids to advancement resorted to by the quack. Untiring industry along the line of ethical practices will develop true professional merit, which the public are sure to recognize, and a reputation founded upon this rock will be strong and enduring, and one who builds upon it will live to see those who depend upon the temporary newspaper notoriety or other vicious means of advertising swept into obscurity. Before leaving this subject I would suggest that the secretary be empowered to purchase copies of the code sufficient, so that each member may have a copy, that we may all become familiar with its precepts.

One could hardly preside a year without observing some things which I believe might be conducive to better work in the society, and as they have occurred to me I have jotted them down. We should meet more promptly at 8 o'clock, get to the paper early, have the discussion brief and to the point, and then devote the balance of the evening to the report of cases and discussion thereon. I doubt if two weeks ever pass without something of general interest occuring in the practice of some one of those accustomed to meet with us. I notice that the Detroit societies devote whole evenings to reporting cases and I believe we might to advantage follow their example. Also the presenting of patients before the society mighty be made an interesting feature. Four rare and interesting cases were presented the past year, I think by DOCTORS WOOSTER and KING. As our membership is at present rather small I would recommend that we occasionally extend invitations to men of recognized ability to speak to us from outside our membership or profession. Lawyers, ministers, and dentists would be able to vary our program and prevent our becoming tired of each others voices. I believe our Committee on Publication for the past year have been rather negligent of their duties, hence but a small part of our transactions have appeared in print. This should be corrected and all papers of real merit and originality should be printed and credit given this society as well as the author for their production.

Before closing this review I wish to compliment the Committee on Ethics on the pains they have taken in their work, with reference to the admission of new members, and recommend that the same vigilance be maintained in the future. It is much easier to keep out undesirable members than to get them out after being admitted.

The work of the Secretary has been very satisfactory, and the minutes very complete. The only suggestions to the Secretary-elect I have to offer are that when he finds it impossible to attend a meeting, that he send the books to the meeting, so that the Secretary *pro tempore* may have the minutes of the preceding meeting. Also, that he collect the dues of the past year before three months of the new year have passed, as by the by-laws a member is suspended after that period for nonpayment.

I wish to extend to the society my hearty thanks for the uniform courtesy shown me during the year, and I trust that my successor in the chair of presiding officer will receive the cordial support extended to me, and that the Academy Year upon which we now enter may be one of continued prosperity.

MEMOIRS.

CANCER OF THE STOMACH, WITH REPORT OF A CASE.*

BY H. WELLINGTON YATES, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE writer of this paper does not hesitate to say that he has nothing new to offer in the way of treatment or the pathology of gastric carcinoma, and would apologize for the reading of a paper on this trite subject were it not that the case to be reported presents some aspects which are unusual in this malady. There are no two cases of any disease which present the same identical symptoms, and they are few who call for the same treatment. Every case has a history unto itself, and in many instances the treatment must be influenced by the environment of our patient. However, there are many striking and leading symptoms connected with this disease that lead us to look to them for a positive diagnosis, such as tumor, signs of obstruction, characteristic coffee-ground vomit, limited area of pain, the cancer cachexia, rapid emaciation, hematemesis in persons beyond the middle age, and enlargement of the cervical glands; all of these later manifestations point to malignancy.

It may be well for us to know these approaching signs of rapid dissolution, but when we are able to detect them, the time has long since passed, in the majority of cases, when we can be of ultimate usefulness to our patient. And what I desire to call attention to in the report of my case is the early manifestation of some of the later symptoms which are usually looked for in this disease.

Cancer attacks the stomach more frequently than any other internal organ, and while VIRCHOW places the percentage of 34.9 as being that which the stomach enjoys for her allotment, some other good authorities believe this too high, and say 25 per cent. is more nearly true. HAEBERLIN pointed out the very curious and discouraging fact that the frequency of gastric cancer is steadily increas-

*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

ing. His statistics for Switzerland show a death rate from cancer of the stomach for 1,000 inhabitants in the years—

1877	1878	1879	1880	1881	1882	1883	1884	1885	1886
0.61	0.66	0.72	0.77	0.85	0.87	0.85	0.84	0 90	0.99

Another peculiar thing about these statistics is that they show an increase or decrease of the disease according to that part of the country from which they were compiled, for instance, the northern part gives a higher death rate than the western, and the western higher than the southern. **Greisinger** reports that he never saw cancer of the stomach in Egypt, and **Heineman** reports that he saw only one case in Vera Cruz in a period of six years.

Doctor Joseph D. Bryant, of New York, has also lately shown that cancerous disease is constantly on the increase in the United States; that from 1876 to 1886 the mortality was 1.82 per cent. while that of the next decade had reached a mortality of 2.17 per cent. This enormous increase in frequency of the disease is as discouraging as it is startling. While we may doubt the accuracy of statistics, since they may be so manipulated as to prove almost any hypothesis, yet we are forced to believe that cancer is either becoming much more common or that the profession is more capable of diagnosing it.

Again, it would appear from what has been quoted above, that climate, or habit may have much to do as an etiological factor. Some of the predisposing etiological factors may be named, as age, since the disease is scarcely seen except between the ages of forty and sixty. M. **Matheu** has collected all the cases of this malady below the thirtieth year, mentioned in literature. The number was but *twenty-seven*. Of **Welch**'s 2214 cases of gastric carcinoma 1232 were men, 981 women. Heredity also plays her part. The exciting cause is as little understood now as ever. Ulcer of the stomach is thought to play no small part, while an old chronic gastric catarrh, which was, at one time, thought to be causative, is now believed to be innocent. Probably more credence is given the theory for occurrence of cancer of the cardia and pylorus by these two orifices being subject to more work (contractions) than the rest of the stomach. The connective tissue enclosed within them is subject to contraction and distention. All this causes a more active nutrition of these parts, and may give rise to proliferation of the glandular tissue, forming a neoplasm. This theory might explain the growth of glandular or connective tissue, yet it does not give us any clue to the cause of malignancy. But a short time ago some German bacteriologist believed he had discovered the cause to be a bacillus, but other investigators have shown his assertions to be wrong. Hence we must confess that, notwithstanding the many researches into the pathology of cancer, we are yet totally ignorant of its origin.

Morbid Anatomy.—The morbid anatomy need only be touched upon, and that only for reasons which will later become obvious. I believe the views of **Waldeyer** are now quite generally accepted that the cancerous affection is developed from the glandular elements of the mucous membrane, the process being an atypical glandular proliferation. The neoplasm thus takes its origin from the mucosa. From there it penetrates the submucosa and deeper layers. The quantity of tissue invaded in the primary tumor, the ulceration, the subsequent metastatic growths and the pain are much influenced by the variety of the tumor under consideration. In all those who have large alveoli and a proportionately small amount of stroma, we should expect rapid growth, metastasis and early ulceration, while those which are characterized by a large amount of stroma with small alveoli and limited blood supply will be more likely to be satisfied with its present domain, but will be more dense, and less liable to ulceration, than the medullary type. And while authorities do not agree upon the type of cell growth which is most common, that has no bearing upon its ultimate malignancy, or us who seek a cure for its extermination.

Early Symptoms.—But it seems to the writer that we should spare no pains in ferreting out all the early manifestations and continue our search for some symptom or chain of symptoms which will lead to something more definite than we now know in diagnosis. When **Ewald** tells us that dyspeptic symptoms are rare prior to the onset of this disease, and **Osler**, that "dyspepsia is common at the onset, but in so many cases the patients have had indigestion for years that the trouble is supposed, at first, to be only an aggravation of the chronic complaint"; when **Van den Velden** stated that hydrochloric acid was absent in gastric cancer, and the investigations of the English physician, **Golding Bird**, led him to conclude that "during the most irritative stages of the disease free hydrochloric acid is present in the vomit in considerable quantities, but it gradually diminishes in proportion to the patient's loss of strength, and that the organic acids increase proportionately as the free hydrochloric acid diminishes," does it not confuse us to arrive at conclusions which are based on good authority? Free hydrochloric acid is often absent in cases of atrophy or an old chronic gastric catarrh, so that we would think our greater advantage would be gained from a negative standpoint as **Kinnicutt** has pointed out. The presence of hydrochloric acid in the stomach contents in repeated examinations in doubtful cases is of the greatest diagnostic value, and points very certainly to absence of cancer. And again, if according to **Bird** the hydrochloric acid is present in the beginning of the disease and only diminished and found absent when the disease is far advanced, and our patient is already showing signs of the cancer cachexia, what hope does this give us for an early recognition?

Boas brought prominently before the profession the presence of lactic acid as occurring in the stomach as a sure sign of cancer. He also made prominent the fact that tests should be made only after lavage, succeeded by a test meal which contained no lactic acid, as barley soup. But **Rosenheim**, **Thayer** and **Einhorn** all had cases that ran a complete course without showing the presence of this acid, and they also affirm that this acid does not exist until there is an absence of hydrochloric acid, and while these valuable researches help us to an ultimate diagnosis, they still leave us absolutely helpless in the way of an early recognition, and up to the present time we have no pathognomonic sign or even a chain of symptoms which will clear up the diagnosis in the early days of this dread disease.

Treatment.—As to treatment, **Virchow** believes that nature may be able to make spontaneous cures. If any remedy can be found which can strengthen the ultimate cells of the body in their struggle with these destructive processes, without doubt something will be done toward producing a cure for cancer. We may hope, in fact we may confidently expect, that the time is not far distant when the brilliant achievements of physiological chemistry and cellular therapeutics will be crowned by a discovery of such a remedy as is needed in these cases [illegible] ultimate vital elements of the body. Doctor **Vaughan**, of [illegible] of our own city, are among the foremost [illegible] in determining the utility of the serum therapy. The writer [illegible] has had three cases in which he has used their nuclein solution in [illegible] with the happiest result. However, that which would apply [illegible] is very different from that which would be [illegible] the growth and subsequent changes in connective tissue; [illegible] the serum therapy has a vast expanse before it, it would seem [illegible] the growth of connective or embryonic tissue is not [illegible] grasp, and so the profession stands ready to grasp at [illegible] which promises to effect a cure or palliate any of the long list of [illegible]. Many a long and well written article has gone out from [illegible] practitioner acting as sponsor to some new cure for [illegible] another in succession has seen his fondest hopes decay. [illegible] received more careful consideration and trial at the [illegible] of our best and most conservative men than the inoculation of [illegible] the carcinomata and sarcomata.

[illegible] the writer was house physician at Saint Mary's Hospital, this treatment was tried on several different occasions for the cure of both these types of [illegible]. We made inoculations with serum as purchased from the dealers, as well as [illegible] inoculation from the erysipelatous patient to the one suffering from cancer. We did succeed in mitigating two cases in which the reaction caused a temperature of 103° Fahrenheit, but within a short time the flame was [illegible] and the disease continued its course. The relief of dyspeptic symptoms [illegible] regulation of the diet, and such assistance to digestion as [illegible] the deficiencies of the gastric secretions. When it is remembered that hydrochloric acid and pepsin are generally absent or diminished [illegible] at least in the later stages, it will be understood why proteids and the heavier foods should be permitted sparingly or given predigested, and when the conditions are not known, and this suggestion is not remembered, [illegible] to the patient's relief by causing a loathing of meat and [illegible] proteid foods. If these foods are administered without the [illegible] of predigestion, putrefaction occurs, and the gas formed may cause [illegible] and annoying eructations; here the use of alkalies and anti- [illegible] as in other similar cases. Nausea and vomiting may [illegible] treated by bismuth, alkalies and the stomach tube. Probably [illegible] treatment is more efficacious in the whole course of this disease than [illegible] from frequent lavage. The failure to digest proteids and [illegible] putrefactive decomposition interferes with the proper digestion [illegible] of food. This interference with the digestion of carbohydrate [illegible] fermentation and the production of lactic acid. We see in this process [illegible] acid is a consequence, resultant upon either improper dietary or a [illegible] contracted pyloric orifice. Therefore, nothing is of more importance [illegible] a proper regimen, and should proteids be given, they should be either predigested or given with hydrochloric acid and pepsin. **Oppalozer** has [illegible] that these patients vomit less if they take all food cold. In a word —[illegible] treatment is entirely symptomatic. Operative interference is [illegible] occasionally successful, as the patient will not submit to the surgeon's request, in the great majority of cases, until after lymphatic glands have been involved. Is it not a pity that these malignant growths are not ushered in with severe pain instead of comparative freedom from it, so that our patients would be willing to submit to any means for relief?

I do not believe that an exploratory operation is a blind for ignorance, as some have affirmed. In this disease we are baffled for signs or symptoms, either subjective or objective, which will lead us to the light, and I believe it is wrong for us to while away weeks in palliative treatment when we feel that there is a probable doubt of the trouble being benign. I certainly would not advocate opening the abdomen of everyone who has dyspeptic history, but I do think that many more could be saved if this procedure was carried out oftener than it is, for at this stage we might expect better results from operative interference, and should no formidable operation be called for, the exploratory incision will heal in a few days. The case I desire to report I believe should have had an exploratory operation, and, if done when the first signs of obstruction occurred, I believe a radical operation at that time might have saved her life.

REPORT OF CASE.

I was called to see Mrs. M. J., March 14, 1897. She was forty-nine years of age and the mother of three grown up sons. Her habits and family history were good. She was of French nativity and neurotic temperament, her weight being about one hundred and seventy-five pounds, and in every way she gave one the idea of a perfectly healthy woman. I was called upon to treat her for indigestion, as she said, and after a few interrogatories I became convinced that her diagnosis was correct. I prescribed some ordinary remedy and left. I was called again on the third day and found her in much the same physical condition, but upon this visit she called me into a room apart from the rest of the family and complained bitterly of the care she was receiving at the hands of her husband and a niece, whom I had reason to know was more than ordinarily faithful to her. I prescribed a sedative and did not see her again for ten days. Upon this visit she complained little of her physical condition but bitterly of those who had been her best friends, and told me in confidence that she thought they were trying to poison her. The only complaint that she called my attention to was a severe pain in the right breast. I examined this carefully but could find no manifestations of inflammation. She complained of this pain on several subsequent visits, but finally ceased. On questioning her niece, she told me that the patient said little of her ailment then, but that she vomited each time she partook of food. I placed her on a strictly milk diet, small quantities being given at a time with the addition of a little limewater. She continued vomiting as before and her mental condition became progressively worse. I endeavored to use the stomach tube, but before it was sufficiently admitted she jerked it away and began vomiting much solid food, among which was a great mass of greens, which she had eaten several days previously. She would not permit me to again introduce the tube. I watched her a few days but was unable to accomplish any good result. Her bowels moved at moderately regular intervals, and the evacuations were apparently normal. About one month from the time I first saw her for this illness, I had her taken to Saint Mary's Hospital. She had been throwing off everything now for about three days, and, her mental condition remained unchanged. I believed she had total obstruction, and indications pointed to the pylorus. With her new surroundings she would permit of any treatment, and I therefore began lavage, and permitted nothing but small quantities of liquid beef peptonoids given frequently as a nutritive. This was continued for about ten days with a most pleasing result. Gradually she became more tolerent of the food, and I cautiously substituted vegetable soups. On several different occasions the lavage would be followed by test meals and then syphoned back after an hour's interval and tested for lactic acid, with a negative result. Hydrochloric acid was found present. While the signs of obstruction were now disappearing, and she could retain all or nearly all of a semifluid diet, her mental disturbance became somewhat changed from what had been a complaining and sometimes loudly demonstrative type, to one of blunted sensibility bordering on stupor. She would eat or drink only upon request, and voided her urine in the bed if the nurse failed to call her attention to it. The tongue became heavily coated and dry, while the teeth were covered with sordes. A careful physical examination revealed nothing. She gave one the impression of intestinal sepsis. Bismuth, salol and calomel were administered per orem and high rectal enemas given daily. After a period of four or five weeks in the hospital, she was removed to her home where she slowly convalesced both mentally and physically. She was now able to be up and about the house.

From the time she entered the hospital, in April, until the first of October she insisted that she was in a pregnant state and could feel the movement of a child. No credence of course was given this, but one thing was often noticeable —a large lump the size of a man's head would appear about at the umbilicus and would as stealthily disappear. This could be seen as well as felt, and after its disappearance no sign of tumor either large or small could be distinguished. Of course she had an enormously fat abdomen and no small growth could be discerned. Strange to say, all that she had been through had not affected her weight or flesh as far as we could tell without weighing, and did not, until sometime in the latter part of the summer. She complained of no pain, was not nauseated except at intervals, and her mind was now clearer than it had been since her illness.

She remained fairly comfortable until sometime during the first of October. At this time emaciation was more rapid and was progressive. She again commenced to vomit after meals, but no sign of complete obstruction occurred until within a few days of her death, November 14, 1897. An autopsy revealed a small tumor of the pylorus about the size of a goose egg, strictly confined to the orifice but not completely occluding it. There were no metastatic growths found. The tumor was very hard, and, as might be expected, it had a small blood supply. No ulceration was visible, and this in all probability explained why she had no characteristic coffee-ground vomit. I neglected to say above that this tumor could be felt some few days before her death, probably owing to the thinning of the abdominal wall through her now great emaciation. All other organs were in a normal state, excepting the stomach itself, which, as might be expected, was enormously dilated.

These manifestations are of interest to me in this history:

(1) The sudden onset of mental disturbance in the early days, and the grad-

ual clearing up of those faculties until some time before her death when nothing unusual could be noticed. She was apparently sane for two or three weeks prior to her death.

(2) The early signs of obstruction which cleared up under massage.

The appearance of intestinal sepsis, coupled with the stupor which accompanied it, the condition running a definite course uninfluenced by treatment, and the evacuation from the bowels being normal.

VERRUCA, NEVUS, AND EPITHELIOMA.*

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EVERY organ, or structure of the body is composed of a definite number of elements, arranged in certain well defined forms, which may vary within certain limits without interfering with normal functions of the part. Beyond these limits we may have hypertrophy, or atrophy, normal elements only participating, to a greater or less degree interfering with function, and without any evidence of malignancy. The border line between malignant, and benign growths is not sharply outlined when epithelial tissues are the sites of these lesions.

The title of our paper limits us to the consideration of three varieties of epithelial growth only, warts, nevi, and moles. We will not consider the vascular nevi. Before considering the pathological conditions of the epidermis we wish to call to mind the normal structure of this organ. The epidermis forms a complete covering for the body and lines the ducts and hair follicles, while its deeper strata line the inner surfaces of the sweat, and sebaceous glands. The epidermis is made up of several strata of cells lying in rows parallel to the surface of the body and closely applied to the papillary layer of the cutis. These strata have sharply outlined borders of separation. The horny layer, "stratum corneum," is the most external of these strata, and is composed of several rows of flattened cells, horny in character. These cells are being constantly shed from the surface, and as constantly replaced. The cells of this stratum are not nucleated, nor do they give any other evidences of living matter, excepting at times the lower row of cells may show traces of a nucleus. Below this stratum are two, or three rows of bright, glistening cells. This is the "stratum lucidum" and it is so different in structure from the strata it separates, as to suggest the idea that the cells of the horny layer are developed from preceding horny cells, instead of growing from the deeper layers of the epidermis. The deepest stratum, "stratum mucosum," is made up of several rows of differently shaped epithelia. The deepest row is columnar with the long axis of the cell perpendicular to the papillæ, which they penetrate by a pointed extremity. These cells have a distinct oval nucleus and are rich in protoplasm. Above this layer are two or three rows of roundish or polyhedral cells with oblong nuclei and distinct cell membrane. The uppermost rows are oblong or flattened as they approach the stratum lucidum, and contain much granular matter. The epithelia of the epidermis are fibrillated, and united to each other by very fine protoplasmic processes, the prickles. This portion of the epidermis is called the "prickle layer." A lifeless cement substance surrounds the cells. These living masses of protoplasm are the active agents in various anomalies of the epidermis.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

VERRUCA.

Warts are variously sized and shaped hard or soft lesions, due to hypertrophy of epidermis and later hypertrophy of the vascular papillæ. The lesions begin in the prickle layer which grows both outward and inward. In the early life of the growth the surface is smooth, but as the lesion grows older it becomes rough, and later fissured in different directions, giving it the brush-like appearance seen in the so-called seed warts. These growths are not attended by any subjective symptoms, and may last for years, or may disappear at any time spontaneously. The favorite sites for verrucæ are the hands and face. Congenital lesions of this kind should be classed with the moles. Warts may exist in great numbers, or there may be only a single lesion. Verruca senilis, the flat wart of the aged, the seborrhic wart, should also be placed with the moles.

Etiology.—It would seem from the frequency of the occurrence of these growths in children, and from the site of the lesion that some external irritant, or germ was responsible for the growth. The laity have long held the opinion that warts were contagious, and the occurrence of the lesions upon several members of a family at the same time would lend color to the belief. PAYNE scraped a wart with his thumb nail, and soon after a lesion developed under the nail and was followed by others on the back of the thumb. Various bacilli, and cocci, have been found on the surfaces of the warts, and also in the lymph spaces of the rete, and it may be that some one of these is responsible for the growth. An examination of a young wart shows mitosis occurring in the prickle cells while the rows increase to three or four times their normal number and also increase very much in size. The horny layer becomes hypertrophied, but the growth of the prickle strata has been so rapid that cornification has not kept pace with it, and the lower rows of the horny layer show nucleated and granular cells. This lack of cornification accounts for the smooth surface of the lesion. After a time mitosis ceases and then cornification occurs, the thickened stratum corneum becomes brittle and fissured. By pressure the growth causes atrophy of some of the papillæ, while others (the vascular papillæ) become hypertrophied, so that the papillæ on the surface of a wart do not correspond to those of the cutis. The epidermal growth is in the shape of cones, which curve inward toward the centre of the wart giving it a rounded base. The growth does not spread latterly unless it takes on malignancy.

NEVUS.

The nevi differ from the lesions that we have been considering, from the fact that they are congenital, or develop from embryonic material. The lesions are soft or hard, smooth or rough, pea to cherry-sized or larger, densely, or slightly pigmented, may be single or exist in great numbers, may remain stationary during life, or may grow slowly after birth but usually cease before adult age is reached and remain stationary afterward. The soft, and the hard mole differ in structure and are not usually found upon the same individual. The soft mole develops from embryonal tissue deposited in the cutis, and consists of epithelium which is similar to the prickle cell epithelia, but lacks the prickles. They have the same oval nucleus that is found in the prickle cell and the epithelia are held together in the same way that epidermal epithelia are held together. In the development of the growth the epithelia form rows of various widths, and mostly perpendicular to the surface; buds form new rods that grow in various directions while near the centre of the lesion they are collected in masses. The rods are always solid, the growth is very slow, nowhere is there evidence of mitosis, the balls or spheres (pearls) are found through the growth. The soft mole may remain indefinitely without undergoing degeneration or proliferating, while in other lesions the rods or nests undergo a softening, a soft connective tissue with large lymph spaces occupying their site. The soft pigmented mole is the starting point of melanotic sarcomata and carcinomata of the skin. A very slight irritation will often start the dormant embryonal tissue into an activity that rapidly destroys the surrounding structures and only ceases its destructive work when life ends.

The hard mole is a different structure and is not developed from misplaced embryonal epithelia, as it occurs in the epidermis, but it may be the growth of abnormal epithelium deposited in this structure. We find two varieties of hard nevi. In one the lesion is the result of overgrowth of the horny layer, while in the other it is the prickle layer that is primarily affected. As a result of pressure the papillæ in both varieties are flattened, but in the lesion where acanthosis has occurred some of the papillæ are preserved as long slender vascular processes. The prickle cells are increased to many times the normal number of rows, and the thickened horny layer is smooth on its surface, yellowish in color, or pigmented, having the appearance of the ordinary callus. After the prickle layer ceases to grow it becomes thinner and is finally limited to a single row of columnar cells. The horny spheres are found in this variety and are sometimes so numerous as to form rows almost touching each other.

EPITHELIOMA.

By epithelioma we understand a growth of epithelium which produces secondary affections of the surrounding tissues which are malignant in character, the lesion being primarily situated in the skin; the epithelium may be derived from the epidermis or from the glands. There are three forms or varieties of the disease, the flat, the deep and the papillary. The most frequent site of epitheliomata is the face but the disease may attack any portion of the skin. Epitheliomata may develop from the slight fissures so often seen about the mouth, or from a surface irritated by caustics, or from preexisting benign growths as has already been mentioned, or may develop independent of these. The lesion may run its course as one of the varieties named, or all of the varieties may occur during the life of the disease.

The superficial or flat variety is the less severe of the three forms, and when it occurs independent of a preceding lesion begins as small pin-head-sized lesions, one or more, and are papules, flat infiltrations, or nodes, the color of the skin, or of various shades of color, most frequently a yellow-red. In the early life of the lesion there is but slight subjective irritation, usually pruritus, the scratching to relieve this causing an excoriation that refuses to heal. Around the border new lesions are noticed, the pearls already mentioned. The excoriation is followed by a minute loss of tissue in the center of the lesion, the result of an ulcer which has sharp-cut edges and limited by an indurated, indented border. The ulcer surface may be red and soft, showing minute papillæ at its base, or as is more frequent, has a glazed appearance. The lesions are usually slow in growth, but are liable to take on active growth at any time. Cicatrices sometimes form in the centre of the lesion while the disease is active around the border, or it may heal completely. This form of cancer sometimes lasts for years after attaining a certain size. The subjective symptoms may be slight throughout the whole course of the disease though in some cases they are most severe.

The deep variety of epithelioma unless developing from the flat begins as pea to bean-sized nodules in the skin or subcutaneous tissue, several of the lesions being set closely together, and projecting above the surface. By growth in the course of several months or years, a cherry-sized nodule is formed, having a reddish-brown color and showing minute capillaries over its surface. The lesions may be dome-shaped with sloping borders, or they may be flat on top with perpendicular borders. Indurated prolongations are seen growing from the edge of the lesion, the skin becomes adherent over the surface, and retracted, and it also adheres to the deep seated structures, becoming immovable. Sooner or later ulceration occurs superficially as in the preceding, or deep-seated, causing a softening, with breaking down of the lesion, forming a deep ulcer with hard border and showing many pearls. Implication of glands soon occurs, and metastatic tumors form in internal organs, and death soon follows. This form is much more rapid in growth, than the flat variety.

The papillary epithelioma selects for its site usually the junction of the mucus and skin surfaces—glans penis—where a pea-sized elevated lesion may develop, having an excoriated granular surface situated upon a base of closely-set enlarged papillæ. Quite a large surface of superficial excoriation may result before the occurrence of deep-seated ulceration. Its course after this occurs is the same as the deep-seated form. The lesions may develop on the extremities, or in other situations, and sometimes are found multiple, the older lesions healing at the center, and extending around the border.

WHAT CAUSES EPITHELIOMA?

That the disease is at times the result of irritations is too well known to need comment. That it develops at the site of preexisting lesions is also well known. It is not often that cancer develops from cells away from their normal situation, but from the epidermis, or the coil or sebaceous gland. Autoinoculation has occurred, and the endemic, or geographical distribution of cancer would lend strength to the theory of contagiousness. Cancer occurs rarely under the age of forty. Men are more liable to the disease in the proportion of four to one, explained by occupation, liability to injury, et cetera, furnishing a stimulant, or a ready means of entrance to the specific infection. It results from continuous mild irritation more often than from severe: the smoker's pipe, the soot to the chimney sweep, the sailor's constant exposure to weather changes, et cetera. A protozoon is held responsible for molloscum contagiosum for

Darier's disease, and a similar parasite is held by some as responsible for epithelioma and would seem to give a better explanation of the cause of the disease than any heretofore advanced. Positive proof by cultures are still lacking, however. A. E. C.

* * *

The subjects chosen for consideration this evening are not the most desirable for comparative pathological study.

A corn, as you know, is an outward growth or an accumulation of epidermal epithelium. It is caused by an intermittent pressure, probably acting as massage, stimulating nutrition, thus retaining these cells which would otherwise have been thrown off. Remove this cause and the corn will disappear.

Epithelioma (squamous) is an inward growth of epidermal epithelium, which infiltrates surrounding tissues and becomes secondary in the neighboring lymphatic glands.

In corns there is simply an accumulation of retained epidermal cells having no acquired peculiarity.

In epithelioma there is an increased growth of epithelium inward, that is, an interpapillary portion of the epidermis grows inward into the subepidermal tissues, infiltrating in all directions. Each cell of this neoplasm contains "this impulse", and any cell becoming detached and carried to other parts will continue the growth there, that is, it is malignant.

Of the many theories which have been advanced to explain the cause of cancer, "the parasitic nature of cancer" has recieved the most attention recently. The best discussion I can give you on the parasitic nature of cancer is to refer you to the article by DOCTOR HENEAGE GIBBES in *The American Journal of the Medical Sciences*, July, 1893.

Warts and nevi are of mesoblastic origin, hence the difficulty in discussing epiblastic and mesoblastic forms. The most common varieties of verrucæ are formed by an increase-growth of papillæ carrying its covering of epidermis, which may be thickened at the apex, but afterward the papillary portion becomes denuded of its epidermis. There is another class of warts composed entirely of epidermis and further study will probably give us a changed classification.

To summarize briefly, corns are probably caused by an intermittent pressure modifying nutrition, but the cause of warts and cancer remain unknown.

E. H. T.

THE HYPERTROPHIED PROSTATE.*

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THE prostate gland is a pale reddish, firm body surrounding the neck of the bladder and the first portion of the urethra. In its normal condition it is heart-shaped and weighs from four to six drachms. Its base measures one and one-half inches in breadth by three-fourths of an inch in thickness. Its depth from base to apex is about one and one-fourth inches. The base is directed backward toward the neck of the bladder. The superior surface is flattened, slightly

*Read before the DETROIT ACADEMY OF MEDICINE.

grooved longitudinally and three-fourths of an inch distant from the symphysis pubis. The inferior surface rests upon the second portion of the rectum and is attached to it by the recto-vesical fascia, a thin but firm layer of which encapsulates the whole gland. It is located by the pubo-prostatic ligaments, the posterior layer of the triangular ligament and the anterior portion of the levator ani muscle. By these it is so poised that, in the erect posture of the body, the apex points obliquely downward and forward.

The arterial supply is obtained from the internal pudic, inferior vesical and hemorrhoidal vessels. Its veins form around its sides and base a plexus, which receives the dorsal veins of the penis and the veins from the bladder, and finally terminates in the internal iliac vein. The nerve supply is derived chiefly from the inferior hypogastric plexus. The sympathetic nerve supply is liberal and intimately associated with that of the rectum, anus and penis. The lymphatics of the prostate join those from the bladder and seminal vesicles and enter the internal iliac glands.

Within its fibrous capsule the prostate consists of two lateral lobes of equal size, connected by a median commissure, the prominence of which varies in youth as well as in more advanced age. This commissure is separated into an anterior and a posterior median portion by the urethra, which passes through it from base to apex. The urethra is usually placed about one-third nearer the upper than the lower surface, although occasionally a portion of it lies wholly above and rarely it passes through the lower part of the gland. The prostate is perforated also by the ejaculatory ducts, which pass obliquely forward through its lower portion and open into the prostatic urethra.

Aside from the above named structures the prostate is composed of muscular and glandular tissues arranged as follows: Immediately beneath the capsule is a layer of unstriped muscular tissue continuous with the external muscular layer of the bladder. Surrounding the urethral wall is a circularly disposed layer also of unstriped muscular fibres, thicker posteriorly and continuous with the internal muscular layer of the bladder, and merging anteriorly into the accelerator urinæ muscle of the membranous urethra. Between these two layers, in the posterior portions of the lateral lobes and posterior medial commissure, is found the glandular substance intermingling with and supported by pale muscular fibres interlacing with connective and fibrous tissue. This layer gives form and character to the organ. The glandular substance, constituting one third or less of the whole organ, consists of numerous follicular pouches opening into canals, which join and form from twelve to twenty ducts. These also open into the floor of the prostatic urethra.

The precise functional character of the prostate is still a matter of controversy. The preponderance of muscular tissue is accepted by some as of importance in the act of micturition. Its sexual function is complex. In the floor of the prostatic urethra, between the orifices of the prostatic ducts, is the veru montanum, the supposed seat of sexual sensibility. The secretion from the prostatic follicles dilutes and increases the bulk of the seminal fluid. The muscular fibres of the prostate are employed in the ejaculatory expulsion of the semen.

The most important morbid change which the prostate undergoes is that which is known as hypertrophy. Sir Benjamin Brodie has been quoted as authority for the statement that "when the hair becomes grey and scanty . . . . the prostate usually or perhaps invariably becomes increased in size." **PROFESSOR D. J. HAMILTON** says, "So common is hypertrophy in old men that it may be looked upon almost as the normal condition of the prostate at that time of life." Investigation by numerous observers has modified these extravagant generalizations in the following manner: (a) Moderate enlargement of the prostate occurs in thirty-three per cent. of men at middle age. (b) Thirty per cent. of men above fifty years have fibrous tumors of the prostate. (c) Symptoms of enlargement are present in five per cent. of men approaching sixty years of age. (d) Enlargement seldom begins after the age of seventy.

The causes of prostatic hypertrophy are unknown to some and disputed by others. Among the conjectural causes given are general antheroma, chronic congestion of the organ due to sexual excesses, urethral stricture, and disease of the bladder, and "the misdirected energy of the testes" in the waning of sexual life.

The nature of the growth is not always the same. According to **THOMPSON'S** classification, which is generally accepted, there are four varieties of hypertrophy of this organ. (1) Simple increase in the development of all the component tissues in about normal proportion. This constitutes true hypertrophy. (2) Development of the stromatous and fibrous structures in excess of the glandular. This is the form most frequently found. (3) Increase of the glandular tissue in excess of the stromatous. This is rare. (4) Localized hypertrophy. The formation of a tumor. These growths are found in the majority of cases.

Enlargement always takes place toward the base of the gland, in its pathological divisions, the lateral and median portions. The left lobe has been found enlarged more often than the right. Either one or both of these may be considerably enlarged without any serious accompanying symptoms. A slight projection of the median portion, however, into the internal urethral orifice obstructs the flow and favors the collection of residual urine, and, when polypoid in character, may act like a valve and cause complete retention. For these reasons median hypertrophy is most frequently met with clinically, and may in the majority of cases be assumed to exist in patients over fifty-six years of age, whose symptoms are due to hypertrophied prostate.

The degree of enlargement varies. The diameter of the prostate has been known to be four and one-half inches. The weight in this case was twelve ounces. On account of the increased thickness of the gland the prostatic urethra becomes elongated, more or less tortuous, contracted, Y-shaped and impermeable to instruments, depending upon the distribution of the hypertrophy.

The appearance of symptoms is so gradual that often the condition is not recognized until far advanced. The first noticeable symptom is a lack of force in the stream. This is usually ascribed by the patient to his advancing years. As the enlargement increases this hesitancy provokes the act of straining, in spite of which the urine flows rather than is driven out. Micturition becomes more frequent especially at night. There is a persistent feeling of fullness and weight, an uneasiness about the hypogastrium, rectum and perineum. Retention of urine may result at any time from straining, exposure to cold, overdistention of bladder or excesses of any kind which may cause congestion at the vesical neck.

In addition to the obstruction caused by the mere enlargement of the gland, further obstruction is produced by the efforts made in emptying the bladder, owing to the development of what is called "bar at the neck of the bladder" or "interureteral bar." This formation and the consequent collection of residual urine does, however, sometimes precede the hypertrophied condition, due probably to the athermatous condition of the bladder.

The stagnant residual urine collected in the bas fond of the bladder increases in amount and readily decomposes under favorable circumstances of bacterial infection. Upon the treatment at this stage depends the future comfort and safety of the patient. Catheterization aseptically performed will beget a tolerant condition of the bladder that may continue indefinitely and insure to the patient a minimum of suffering and inconvenience. Should infection result from laxity in this performance, cystitis with ammoniacal decomposition of urine follows. Slowly and often imperceptibly but inevitably the infection pursues its course along the ureter to the kidney and causes septic pyelitis and finally pyelonephritis. Meanwhile, as the case progresses, the cystitis becomes more severe. Vesical hyperplasia and catarrh result. In some cases the bladder becomes thickened and contracted. In others it becomes atonic, dilated and sacculated. The bas fond increases in depth and holds an increased amount of residual urine. Apparent incontinence but really retention of urine follows, with occasional acute attacks of complete retention or urethral hemorrhage. Chronic urinary fever with its attendant constitutional symptoms succeed in some instances the distressing effects of urinary calculi. The patient is weakened by the formation and discharge of pus from the bladder, worn out by his efforts to get rid of his urine, depressed by pain and loss of sleep, and confronted with a wretched existence and an impending death.

The diagnosis of prostatic hypertrophy is based upon subjective symptoms, rectal exploration, and the passage of instruments into the bladder. The diseases to be excluded are vesical calculus, stricture, paralysis, atony, tumors and simple catarrh of the bladder. By rectal exploration the size and shape of the prostate may be disclosed; irregularities and inflammation detected; and, in conjunction with the metallic catheter, some idea obtained with reference to the distribution of the enlargement, the size of the median portion, and the length and tortuosities of the prostatic urethra. Without the catheter rectal exploration will reveal nothing concerning the urethral canal or the extent of median hypertrophy.

The measures adopted for the relief of an hypertrophied prostate also vary considerably depending upon the peculiar condition and the urgency of the symptoms. The majority of cases are jollied along by medical or palliative treatment. This includes hygienic conditions, temperate diet and habits, the correction of constitutional diathesis of gouty or rheumatic nature, anaphrodisiac, antiseptic and soothing remedies, tonics and moderate exercise. Whenever the residual urine amounts to three ounces or more, complete evacuation by the use of a catheter at least once daily is essential. If expedient for the patient to attend to this performance himself, he should be supplied with a perfectly smooth, soft and flexible rubber catheter, and given sufficient time for his thorough instruction in its cleanly use and care. In some instances the silk or linen catheter will be found more suitable. As the condition becomes more aggravated more frequent catheterization may be required. If from any cause acute retention should occur, instrumentation by the physician, or, failing in this, aspiration may be demanded. Immediate relief from this complication is imperative owing to the possible onset of the typhoid condition. In connection with the usual treatment of cystitis, hydrostatic irrigation is frequently beneficial.

While the treatment outlined above moderates sufficiently the distress of many patients, there are a few whose very life demands more radical measures. As the capacity of the bladder becomes diminished either from irritability or contracture, it becomes an hourly task to pass the catheter, and such patients exist for little else. The operative procedures proposed are reducible to five, namely, dilatation of prostatic urethra, vasectomy, castration, prostatotomy through either the urethra or perineum and suprapubic or perineal prostatectomy.

Dilatation, by which is meant forcible stretching of the prostatic urethra under anesthesia, would seem indicated in cases in which that portion of the canal is narrowed and tortuous from lateral hypertrophy. In the past this procedure has not been approved on account of the probability of exciting a prostato-cystitis. As this complication may be prevented by cautious asepsis, as a conservative operation dilatation may not be inapplicable in such instances.

Vasectomy and castration may appropriately be mentioned together on account of their applicability in those cases only in which the genital function has ceased or is ceasing to be a matter for consideration. Experience has confirmed the supposition that neither these nor any other particular method will be suited to all forms and degrees of this affection and that results will sometimes be disappointing. Of the two operations the former although less speedily followed by favorable results is the less serious, and may be applied to those men of advanced years who have become enfeebled by prolonged illness. In some of these persons castration, slight as it may seem, has proven a fatal undertaking. Following these operations the bulky overgrowth of the lateral lobes has been found to diminish to the extent of lessening the irritability of both prostate and bladder and of mitigating the frequency and difficulty of micturition. The vesical outgrowths, however, either from the lateral lobes or the median portion are more satisfactorily affected through section of the bladder.

Prostatotomy or the division of the obstructing bar at the neck of the bladder through the urethra is a dangerous procedure on account of the possibility of uncontrollable hemorrhage. Prostatotomy effected through the median line of the perineum and followed by prolonged drainage has met with more favor. The bladder is given rest, its irritability reduced, and in some instances the growth has so far diminished as to permit of voluntary urination through the urethra.

Prostatectomy has perhaps been the most frequently adopted of all these surgical procedures. The suprapubic method has met with greatest favor on account of the greater ease in removing vesical calculi and pedunculated growths and circumscribed tumors of the posterior median portion. However, the perineal method also has its advocates who insist upon that being the most natural course for drainage, Both methods are sometimes advantageously combined for the sake of through-and-through drainage.

It is evident from a general consideration of the subject and the history of these cases that the safety of every patient forbids a careless routinism of palliative measures, but requires instead the adoption of that particular form of treatment which a candid judgment of the case shall dictate.

CLAIMS OF DOCTORS AGAINST ESTATES OF DECEASED PERSONS.*

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It is unnecessary, perhaps, to state to you the laws of Michigan relating to claims against estates of deceased persons, in a technical or detailed manner. The substance of those laws will be sufficient. The method of collecting such claims is simple enough, and it is probable that a large proportion of physicians are familiar with the procedure.

It is understood of course that collection of debts against estates of deceased persons must be made through the medium of the probate court. The executor or administrator, immediately after his appointment, should ask the court either to set a day for hearing claims or to appoint commissioners for that purpose ("Howell's Statutes," Section 5888). If commissioners are appointed they are usually two in number, and they set the days, ordinarily two, on which they will receive and pass upon claims. The judge of probate may allow in the first instance not more than eighteen months nor less than six months to creditors to prove their claims ("Howell's Statutes," Section 5892). This time may be extended not to exceed two years in all ("Howell's Statutes, Section 5893). It is customary, however, in Kent county, to fix the time at six months from the date of the order made on the petition or request of the executor or administrator, and that would seem to be ample time for creditors to learn that the debtor had died. Commissioners on claims are appointed in cases in which the claims are likely to be numerous or disputed, and in order that the court may be relieved of the work. The judge of probate in Kent county is one of the busiest of our public officers. During the year, an enormous amount of property filters through his court, from deceased persons to their heirs and legatees.

The only notice given to creditors that a time has been set by either court or commissioners to pass upon claims, is a publication of the notice a few times in a newspaper and a posting of the notice in a few places, neither of which is likely to come to the attention of busy men ("Howell's Statutes," Section 5889). The statutes of the state say that if a claim is not presented within the time allowed, usually six months, it is forever barred ("Howell's Statutes," Section 5901); but it may be filed and proved as a tardy claim, if the estate has not been settled, and if the claimant can give reasons satisfactory to the court for his delay ("Howell's Statutes," Section 5894). Although this is the law according to the statutes, it is not the law according to the decision of the Supreme Court. The highest court of the state has decided that a creditor can prove his claim at any time before the estate is settled, and the judge of probate cannot decline to hear his tardy claim on the ground that he has not given sufficient reason for the delay; but if his claim is tardy, the claimant must take

*Read before the Grand Rapids Academy of Medicine.

the estate as he finds it; that is to say, if it has been partly distributed and there is not enough left on hand to pay his claim, the heirs or legatees are not bound to refund enough to pay it. If the estate has been entirely closed and settled, a claim not proved cannot be collected from the heirs or legatees. It is decidedly the best plan, therefore, for a claimant, to find out, as soon as he learns of the death of his debtor, whether the debtor left an estate, whether proceedings have been taken to administer it, and whether commissioners on claims have been appointed or a day set for a hearing on claims before the court. All of this information can be readily obtained by inquiry of the Register of Probate.

When the administrator of the estate or the executor of the will of the debtor has been appointed, an itemized statement of the claim should at once be filed either in the probate court or with one of the commissioners, as the case may be. When this is done, your claim is reasonably sure of attention on the day of hearing, and you will probably receive notice if the administrator or executor decides to contest it. But it is the better practice to make a note in your daily memorandum of the date of the hearing, and be present with your books of account, and with the necessary witness or witnesses ready to prove your claim if required to do so. Witnesses are sometimes necessary, because the law will not permit a claimant to testifiy as to things equally within the knowledge of the deceased debtor. In cases of a serious nature, it is a good plan for doctors to have their fees for services placed in the shape of a promissory note, provided of course the amount can be fixed, and provided also, it can be done with perfect propriety.

To any of you who may have been so unfortunate as to have become, at some time, involved in the intricacies of a lawsuit of any kind, and have come in contact with the bewildering and confusing complexity of legal machinery, it will be pleasant to know that there are no technical rules regulating the form of presenting claims in the probate court against the estates of deceased persons. The Supreme Court of this state has declared (Comstock *versus* Smith, 26 Michigan, 321) that "substance is more to be regarded than form in such cases, and the simpler the statement, the better, if sufficient to apprise the court and parties interested of the real claim. The true subject of the dispute should clearly appear, and where this is the case, the form is of little consequence."

When the claim is properly proved and allowed by the commissioners, the commissioners make their report and file it in the court. The Judge of Probate thereupon makes an order confirming the report, and where no commissioners were appointed, he makes an order to pay debts, and in both cases, the administrator or executor is then at liberty to pay the claims.

Physicians are called upon to render service without compensation, to a greater extent than are those engaged in any other profession or occupation. They are also obliged to extend credit to people, irrespective of their ability to pay, while those engaged in other professions and occupations are able to say, "Pay cash or no service will be rendered," or "goods delivered." It may be interesting, therefore, to doctors, to learn, if they do not already know it, that generally speaking, they will be unable to collect claims, whether preferred or not, against estates which do not exceed $600 in value. Stated in another way, if the entire estate (not including household furniture valued at $250 or less, and other personal property valued at $200 or less to be selected by the widow and assigned to her) does not exceed $150 in value, it is all transferred to the widow ("Howell's Statutes," Section 5847).

If there is an estate from which your claim can be collected, and your claim is properly proved, the next natural inquiry is, "When can payment of the claim be expected?" The executor or administrator has a year and a half from the date of his appointment within which to pay debts, and if he cannot convert enough of the assets into money to pay debts within that time, the court will, upon a proper showing, extend the time a year at a time, not exceeding four years in all ("Howell's Statutes," Section 5918–21). You may be obliged, therefore, to wait four years for payment of your claim. On the other hand, if it is a preferred claim, that is, a claim for services during last illness, you may be paid at once, and if it is an ordinary claim "on the same floor," so to speak, as other debts, you may be so fortunate as to receive payment at the expiration of the six months allowed creditors to prove their claims. There may be executors and administrators who will pay your claim at once, whether it is in the preferred class or not, but if it is not preferred, they make the payment at their own risk, and are individually responsible for so doing.

There is an order for the payment of debts, with which physicians should be familiar. It is prescribed by statute. There are four classes into which claims are divided and, in the order in which they must be paid. They are as follows:

(1) Necessary funeral expenses;
(2) The expenses of the last sickness;
(3) Debts having a preference by the laws of the United States; and
(4) Debts due to other creditors.

Doctors' claims may be classified in both the second and fourth classes; in the second as claims for services during last illness, and in the fourth, as claims for services to the deceased and his family at any time prior to the death of the debtor, except during his last illness.

It very often happens that the charges of doctors, as well as others engaged in professional occupations, are objected to as excessive. These objections are made in the probate court as frequently as elsewhere. It is interesting, therefore, to know how the Supreme Court of this state has regarded doctors' claims, the method of proving, and the measure of the value of their services. It is important to a physician to know whether he can be the sole judge of the value of his own services, or whether they shall be measured by a professional juror, a grocer, a farmer, or others outside the profession of medicine, or whether the amount of his claim or bill shall be fixed by the opinion of such of his medical brethren as may have no personal interest or bias in the matter.

One of the cases which has been decided by the Supreme Court of Michigan, may be of interest to you (Wood *versus* Barker, 49 Michigan, 295). One named MURRAY had been injured by a blast at Sault Sainte Marie so that both legs were badly crushed below the knee. DOCTOR MARSHALL W. WOOD was called in to aid the attending surgeon, DOCTOR HARDING. The left leg was amputated, and both surgeons were of opinion that amputation of the other was expedient, by reason of the extensive comminuted fracture of the bones and laceration involving injury to an artery, to prevent extreme danger of death. The opposition of MURRAY to this prevented the amputation, and the limb was ultimately saved, but not entirely restored to its original condition. Some time after DOCTOR WOOD had ceased his visits, and while DOCTOR HARDING was still in charge, DOCTOR JESSOP, of Mackinaw, assisted in the treatment of the patient. The only medical testimony given in the case was by DOCTOR WOOD and DOCTOR HARDING. DOCTOR JESSOP did not testify. The only questions in the case were the value of the services of DOCTOR WOOD, and the propriety of the treatment, or, in other words, whether or not there was malpractice. With the latter question, this paper has nothing to do. You may be interested in knowing, however, that the jury, in the lower court, decided that there had been malpractice, but in so doing acted entirely upon their own unprofessional notions of how the injuries in question should be treated, and ignored the testimony of those competent to give an opinion upon such matters. On this point in the case the Supreme Court decided that the jury could not rightly be allowed to find malpractice without testimony from persons who were qualified to give opinions on the method of treatment. Upon the question as to the determination of the value of the doctor's services, the court said that there can be no presumption of law concerning the value of a surgeon's services, and there is no presumption that a jury can ascertain it without testimony of some kind, from persons knowing something about such values. DOCTOR HARDING testified as to the value of DOCTOR WOOD'S services and the Supreme Court said that there was no sufficient reason why all of his testimony might be disregarded, and that there was no rule which would allow the jury to form an independent conclusion without testimony on a matter which required proof beyond their opinions. There is no reasonable probability that all jurymen have a knowledge of the value of a physician's services, or that they are in a position to learn the customary or proper rates. In other words, the court intimated that the best testimony as to the value of a physician's services would be that given by the claimant's medical brethren. The jury, it is inferred, would make proper allowance for the natural desire of the claimant's medical brethren not to depress the scale of charges for medical services.

Another case of interest (Thomas *versus* Caulkett, 57 Michigan, 392) in which the question of the value of a physician's services was discussed, arose at Allegan. DOCTOR HENRY F. THOMAS made an agreement with one PETER CAULKETT, who had been injured in a railroad accident, to assist him, by his medical testimony, to collect his claim against the railroad. The agreement fixed his commission at $300 if CAULKETT collected $1,500, and $500, if he collected $2,000, and so on. The Supreme Court, decided that the doctor could recover nothing, such agreements being void, as against public policy. Upon the question as to the value of a physician's servics, the court said that it cannot be held, as a matter of law, that the value of scientific services depends on a man's actual average daily receipts. If that were so, there could be no room for advancement. A physician's services may be worth much more than this. The value of a physician's services, of the kind required in the case in question, could not very well be measured by his usual receipts in daily business to such an extent as to exclude opinions of competent men as to their worth.

Soon after your president requested me to prepare this paper, I received from a college friend, now a practicing lawyer in Pennsylvania, a copy of what is designated in Pennsylvania as the "paper book" (in Michigan it is named the "record and brief") of a suit brought by a doctor against the estate of another doctor for the collection of a bill for professional attendance of the claimant upon the deceased, for several years before the latter's death. The case is an unusual and interesting one, and I refer to it for two reasons. First, in order to quote the words of the judge of the lower court where judgment was given against the estate; and, second, in order to call attention to a section of the code of ethics of the American Medical Association which to a "layman" like myself seems like an admirable section.

The case is that of DOCTOR L. T. BREMERMAN against WILLIAM M. HAYES, executor of the will of DOCTOR WILLIAM H. MATLACK, deceased, Chester county, Pennsylvania. DOCTOR BREMERMAN attended DOCTOR MATLACK from time to time during several years prior to the latter's death, and brought suit against his estate to collect the amount of his bill for such attendance. The executor of DOCTOR MATLACK's will contended that the entries in DOCTOR BREMERMAN's books of account indicated that it was not his intention to make any charges for attendance, and that the presentation of a claim against the estate was an after thought; and it was further claimed, on behalf of the estate, that the ethics of the medical profession did not permit physicians to charge for attendance upon each other, and that this was an additional indication that DOCTOR BREMERMAN presented no bill and demanded no payment during the life of DOCTOR MATLACK, but that the charges were created and entered in DOCTOR BREMERMAN's books after the death of DOCTOR MATLACK. The case has not yet been decided in the higher court.

The judge of the lower court in his charge to the jury made a few statements, which, although they are not applicable to the larger proportion of claims of doctors against the estates of deceased persons, yet they are instructive as indicating the attitude of the courts not only of Pennsylvania, but of Michigan, and probably of all the states, toward claims of all kinds against estates of deceased persons. The judge said: "The claim is made against the estate of a deceased person, and our Supreme Court, from the frequency of such cases and from the lack of merit in many of them, has said it is proper for the Court—in fact I do not know whether it has not gone so far as to say it is the duty of the Court—to caution jurors in the consideration of such cases, and say to them that it is their duty to scrutinize such claims carefully, and to require at the hands of those presenting them proof that fully satisfies them of the justice of the claim, before rendering a verdict. And, as I said, the reason for that is the frequency with which unmeritorious claims are presented against dead men's estates, after perhaps the only one, or the most competent one, to contradict or deny the claim of the plaintiff, has had his mouth closed by death. So that in considering this case you will bear these instructions in mind, and will carefully scrutinize the claim and the evidence presented to sustain it."

The section of the code of ethics of the American Medical Association (page 438) to which DOCTOR MATLACK's attorneys pointed as an indication that DOCTOR BREMERMAN did not intend and in fact did not dare to present his bill to DOCTOR MATLACK during his lifetime, reads as follows:

"ARICLE II.—PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

Section I.—All practitioners of medicine, their wives, and their children, while under the paternal care are entitled to the gratuitous services of any one or more of the faculty residing near them, whose assistance may be desired. A physician afflicted with disease is usually an incompetent judge of his own case; and the natural anxiety and solicitude which he experiences at the sickness of a wife, or child, or any one who, by the ties of consanguinity, is rendered peculiarly dear to him, tend to obscure his judgment, and produce timidity and irresolution in his practice. Under such circumstances, medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded."

It is important to physicians to know that, in general, in the State of Michigan, a wife, or her separate estate, is not liable for the debts of her husband, and that she cannot, voluntarily or in any way, make herself personally responsible for her husband's debts. Claims for medical attendance upon a wife is a debt of the husband which the husband must pay (67 Michigan, 546). This law would seem a hardship, however, if the husband should be insolvent and the doctor's services should be rendered to the wife in reliance upon the wife's own financial responsibility. While the matter has probably not been directly passed upon by the Supreme Court of Michigan, yet it is probable that, in such cases, the doctor could collect his claim from the wife's estate. It is possible, also, that if the husband is poor or "slow pay" the bill for medical attendance could be collected from the wife's estate. But as a general principle of law the husband is liable for medical attendance upon his wife.

GASTRIC HYPERACIDITY.*

By J. A. PATTON, M. D., Detroit, Michigan.

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It is with much trepidation that I venture before this society with any views of my own upon a subject of such importance as the one which I have chosen; a subject which has for years enlisted the profoundest thought of some of the brightest minds in the medical profession, until, after years of patient labor and experimentation, their efforts have been crowned with success. Scientific research and inventive genius, working shoulder to shoulder, have placed the diagnosis of digestive disorders beyond the realm of conjecture, lifted their therapeutics above the plane of empiricism and established them upon a solid scientific basis. It is not with a view of imparting information to those masters of the art, or of exploding any new or startling theories, nor of belittling or casting any slur upon the methods of investigation and diagnosis invented by them, and employed by many here tonight, namely, the test meal, tube and chemical examination of the stomach contents. On the contrary, I ascribe to them the highest place and praise and cheerfully and thankfully admit that all we with certainty know of these hitherto mysterious disorders we owe to their unwearying exertions. It is rather a plea for the general practitioner who, either for want of time or tact or proper appliances or knowledge or something, is not prepared to make those careful, scientific tests, and must rely upon his powers of inductive or deductive reasoning to read and interpret the subjective signs of pathological conditions for his success in the field of practice. Speaking for myself, I have found it no simple matter to pursuade many of my patients to submit to this form of diagnosis. Delicate and nervous women (and a large percentage of dyspeptics are such) have an ungovernable repugnance to swallowing two or three feet of rubber hose that have already been swallowed dozens of times by dozens of people of all states and conditions of life. Like opposition is met to the employment of the stomach bucket, transillumination, and other mechanical devices. The diagnostic aids may be utilized in hospital or dispensary practice where the patient must either submit to such measures as the physician orders or seek assistance elsewhere, but in private practice our patients are likely to exercise that inalienable right bequeathed by our forefathers. It is all very well for men of high reputation, whose positions in the profession are assured, to advise us to stand upon our dignity and insist upon our professional rights. Somehow in this country many of our clients have, or imagine they have, certain personal rights and are not averse to expressing them, hence when their personal rights and our professional dignity conflict, the latter must succumb or our patient is likely to go to another doctor who, less conscientious perhaps, certainly more diplomatic, garners in our patient and incidentally the fee, while we are left to fatten upon conscientious rectitude and professional dignity.

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* Read before the Wayne County (Detroit) Medical Society.

Again, the indiscriminate use of the stomach tube by unskilled and inexperienced operators is to be deprecated, inasmuch as the operation, simple as it appears, is sometimes productive of harmful and even fatal results. Who knows how many unsuspected aneurisms of the aortic arch have been ruptured? How many ulcerated or carcinomatous stomachs have been perforated? How many dilatations or diverticula, unsuspected and innocuous at the cardiac terminus of the gullet, have been perforated, stretched, or irritated to the irreparable injury of the patient, and the everlasting confusion of the unskilled but enthusiastic searcher after scientific accuracy. The repeated, continuous employment of the stomach tube for purposes of lavage is also harmful in many instances, particularly where pyloric stenosis exists, as it results at times in dilatation of the stomach, a condition oftentimes more difficult to cure than the cause of the stenosis.

I hold that the key to the diagnosis of diseases of the digestive system is a perfect comprehension of the physiology and chemistry of normal digestion, together with a thorough knowledge of the gross and microscopical anatomy of the organs and tissues concerned in the digestive process, and the ability to determine by the sense of touch and hearing their boundaries and location. Having thus acquired the ability to determine when the normal, healthy condition exists, then, and not till then, can departures from the healthy state be recognized, and the significance of the symptoms or signs produced by these deviations be appreciated.

The researches of modern investigators have shown that there exists an unvarying relation between certain subjective symptoms manifested by the patient and that condition in which the stomach tube has demonstrated an excess of hydrochloric acid in the stomach contents after the test meal. They have also shown that deficient motility of the gastric walls is always accompanied by its own peculiar symptoms. The same with gastric catarrh, atrophy of the gastric tubules and glands, ulcer and carcinoma. Each class or complex of symptoms has by them been isolated, classified and traced back to the underlying pathological condition which gives rise to them.

On the same principle that we can localize a cerebral lesion by the disturbance in the function of some group of muscles dominated over by that portion of the brain, or recognize an appendicitis, and estimate, with tolerable accuracy, the pathological changes and conditions existing within the abdomen—without resorting to an exploratory laparotomy—by the subjective and objective symptoms manifested by the patient, and which, repeated postmortem examinations have demonstrated beyond doubt, are produced by inflammation of the peritoneum,—so I believe we can, by the light of modern knowledge, and the ordinary process of reasoning from effect to cause, diagnosticate with sufficient accuracy for successful therapeusis the majority of the diseases of the digestive system without resorting to the somewhat complicated process of the tube and chemical examination by a careful interpretation of the symptoms which have been studied and classified by such masters of the art as Kusmaul, Ewald, Einhorn and others; leaving to the specialist those finer distinctions and quantitative estimates so necessary for scientific accuracy, but which only perplex and occupy the time of the general practitioner without increasing either his success or income.

To discuss, however briefly, even a small proportion of the diseases of the digestive apparatus would require more time than I have at my disposal. Nor is it necessary in the present instance, in order to illustrate the application of the ideas suggested in the forgoing pages, to more than hurriedly glance at the diagnosis and treatment of one of the most common of digestive disturbances—gastric hyperacidity.

It is questionable if hyperacidity of the stomach is a disease, or only a symptom of reflex nervous origin characterized by increased functional activity of the secretory apparatus. Whether it is or not, it is of frequent occurrence, and is met with in persons of all ages and all conditions of life. Yet we look for it and find it oftener among the educated and higher classes of society—brain workers, as lawyers, clergymen, bankers, et cetera, society women and those whose habits of life keep the nervous system in a condition of tension or excitement. It may be directly traceable to repeated dietary indiscretions and abuse of alcoholics. As a rule the trouble is not sudden in its approach. The patient simply feels a sense of uneasiness two or three hours after partaking of a full meal—dinner, perhaps. Later the condition becomes aggravated, and the individual experiences pain in the gastric region about the same time after every meal, lasting two or three hours. The pain is relieved by food, particularly milk or eggs or meats. Any direct alkali relieves it for a time. There is usually regurgitation of sour fluid or eructation of sour gas. The tongue is red with a white stripe in the centre. The bowels are usually constipated. Thirst is at imes considerable. The appetite is good—increased as a rule. There is little r no emaciation, and the patient appears well nourished; vertigo, and in some ases disturbances of vision—muscæ volitantes; both frequent and severe headches. On digital examination of the gastric region, there is usually found a ense of diffused soreness or tenderness comprising the whole epigastrium. The stomach is found to be slightly enlarged but not actually painful on ressure. Repeated chemical examinations have demonstrated that accompanying this train of symptoms there is invariably an excess of free hydrochloric acid in the stomach, and they have been enabled to trace them directly to this cause.

When a patient comes to us for treatment presenting such a history as I have endeavored to portray, it seems to me as a general practitioner that a diagnosis can be made with a fair degree of accuracy and a rational system of therapeutics formulated without subjecting him or her to the disagreeable alternative of swallowing a stomach tube, and causing ourselves the trouble and loss of time incident to a chemical analysis, when a simple application of the principles laid down by others far more competent than ourselves will answer every purpose.

The condition once clearly determined, the indications for treatment are plain, and are twofold—palliative and curative. The principle laid down by older writers, of the administration of acids before meals to restrain acid secretions, is of doubtful utility and probably based upon a wrong hypothesis, confounding a condition of gastric acidity resulting from fermentative processes, with the generation of organic acids, with hypersecretions of hydrochloric acid, the true acid of digestion, which when present in normal quantities restrains fermentation.

Palliative treatment consists in the exhibition of massive doses of the various direct alkalies and alkaline earths, to neutralize the acidity of the gastric juice. This allays pain and renders the patient comfortable while curative measures are producing their effect. Calcined magnesia, magnesia carbonate, liquor potassæ, limewater, charcoal and soda, soda bicarbonate, and bismuth are indicated and do good.

Curative treatment consists in searching out the cause and removing it if possible. To this end correcting viscious habits should be undertaken; regulation of diet, change of scene and employment should be advised, and relief from mental work and worry, with cheerful surroundings and out of door exercise. These sometimes effect a cure without the aid of drugs. These measures failing, a system of medication must be adopted. A glance backward at the etiology of the disorder may possibly furnish a clue upon which to hang a rational line of treatment. Granting that the disorder is of neurotic origin, some undue irritation of the nerves or nerve centres presiding over gastric secretion, then the remedies that quiet reflex excitability and inhibit secretion are indicated. The same influence that dries the throat and restrains the secretion of sweat will—it is fair to assume—inhibit functional activity in homologous organs or tissues elsewhere. Hence the bromides may be given, particularly strontium bromide. Drugs derived from the stramonium group, preferably hyoscyamus, will, by their sedative action upon the nervous system lessen gastric secretion, and by the local anodyne action allay gastric pain. Nitrate of silver—given circumspectly, and with due regard to its deleterious effects—partly by its local anesthetic action, partly by its soothing effect upon the nervous system, and its alterative action upon the gastric mucous membrane, is one of the most effective curative agents we possess, and combined with hyoscyamus in the proportion of one-sixth grain silver nitrate to one-half grain of henbane may be given in pill or capsule one hour before each meal when the stomach is empty. It may be employed with perfect safety until three or four grains are taken, then the drug may be suspended for a week and zinc oxide be substituted.

Before concluding this crude and imperfect article, let me once more assure the members present that the writer intends no disrespect to the methods employed by many practitioners, and entertains only the highest respect and admiration for those men who have spent their lives in the patient investigation of diseases and conditions the diagnosis and treatment of which have in the past been, to say the least, uncertain and unsatisfactory. The result of their labors has rendered possible a comparatively easy diagnosis, and has enabled us to employ with accuracy and precision the therapeutic agents we have at our command to combat disease.

THE THERAPEUTICS OF ALCOHOL.*

By F. C. MYERS, M. D., Kalamazoo, Michigan.

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From time immemorial—ever since "Noah became a husbandman and planted a vineyard and drank of the wine and was drunken"—have we been led to believe that alcohol was a stimulant and a tonic and was beneficial to mankind.

The different preparations of alcohol used in commerce for medicinal and other purposes are the alcohols and whiskeys derived from ethyl hydrate C_2H_5OH. This form of alcohol is obtained from any vegetable substance containing sugar or starch and the ferment diastase, which converts the starch into the sugar by fermentation through the agency of the yeast plant which splits the sugar into alcohol and carbon dioxide.

The ardent spirits of commerce are wine, brandy, rum, whiskey, Holland gin, common gin, champagne, beer, et cetera; these all contain different proportions of alcohol, from thirty to sixty per cent. They are diluted with water and associated with coloring matter, volatile oil, extractive ethereal substances, and various acids and salts.

In order to show that the prevailing opinions of some of our best scientific investigators have been changing for the past fifteen or twenty years, at least, in regard to the therapeutic action of alcohol, and that more thorough investigations and experiments are being made, the opinions of some of these prominent men are quoted.

In 1880 H. C. Wood, in his "Therapeutics," said: "It is a well-known fact that alcohol given to healthy men increases the frequency, and to the fingers, the force of the pulse." He also says in the same paragraph—"It is *strange* that no *thorough* study of the action of alcohol on the circulation has as yet been made," and again, in regard to its action upon the nervous system, he says: "It is scarcely doubtful but that alcohol acts upon the nerves as does ether except that ether is more volatile." In 1895 the same author says: "Alcohol is probably of no value whatever in shock; indeed I am perfectly sure that a large dose of alcohol puts one nail in the coffin of the patient;" and, "if you want your patient to come out of shock you will be *very* careful not to give alcohol. In accidents during anesthesia avoid *all* drugs except strychnia, digitalis and ammonia."

*Read before the Kalamazoo Academy of Medicine.

George B. Wood, in 1860, said: "Alcohol *appears* to be a universal stimulant." By this it would seem that he had not investigated sufficiently to form any positive opinion of his own in regard to it at that time. From statistics relating to the treatment of disease *without* alcohol this author gives a mortality of only six per cent. in the treatment of typhoid fever in the Pennsylvania Hospital between the years 1850 and 1854.

Traussçau, in his "Therapeutics" of 1880, says: "Alcohol given in small repeated doses produces the following effects: The pulse regains power, the temperature of the skin becomes natural, activity of the brain increases, and the sense of fatigue diminishes. All of these symptoms show that the brain, the medulla, and the ganglia of the great sympathetic have been stimulated, and that their circulation have been made active."

In looking over the literature of many authors and scientific men of the past, I find that most of them claim that in small repeated doses alcohol acts as a tonic to digestion, a powerful stimulant to the heart and circulation, that it produces slight rise of temperature except in large doses when it lowers the temperature, that a large proportion of alcohol being oxidized in the body it *must* be a food, that it is a cerebral stimulant increasing functional activity in the nerves and circulatory apparatus, that it is good for most all ailments flesh is heir to, that it is good to keep a person warm and good to keep him cool, and that it increases his mental capacity for thought and his physical endurance, et cetera. Notwithstanding the almost universal use of alcoholic drinks during several past centuries, the information given us by writers on materia medica concerning their action on the physical system is very unsatisfactory.

Doctor Prout was the first to experiment thoroughly for the purpose of ascertaining the effects of alcohol on the system. By collecting the expired air soon after alcoholic drinks had been taken he found that it contained much *less* carbonic acid gas than before the drink had been taken. Recently experiments have been made by Sandras, Bouchardat, and others, with the same results as obtained by Doctor Prout. Experiments made by Doctors Beaumont and Percy prove that alcohol enters the blood and circulates therein with so little change that it could be found in the brain, liver, spleen, and other organs. These experiments prove that alcohol taken into the system produces not merely a temporary, so-called, exhilarating effect on the brain and nervous system, but also produces changes in the blood and vital properties of all the tissues, which consist in a diminished exhalation of carbonic acid gas from the lungs, diminished arterialization of the blood, and diminished sensibility both organic and voluntary.

Doctor W. B. Carpenter, in his standard work on Human Physiology says that—"M. Bouchardat found that when alcohol is introduced into the system in excess, the blood in the arteries presents the aspect of venous blood, showing that it has been prevented from undergoing the proper oxygenating process."

Doctor N. S. Davis, of Chicago, dean and founder of Northwestern University Medical School, and the "father" of the American Medical Association, and who has been experimenting from time to time since 1850 on the therapeutic and physiological effects of alcohol, draws the following conclusions: "That it debases the intellectual and moral faculties, deteriorates the quality of the blood, disorders most of the functions, diminishes man's power of physical endurance, and shortens the duration of human life." He further says: "It has been shown conclusively that alcohol has an action similar to that of chloroform and ether when introduced into the blood, and acts as an *anesthetic* rather than a stimulant." And again he says: "It has been shown by carefully devised experiments by the most scientific investigators of different countries, that alcohol when taken into the living body acts neither as a general stimulant nor as a cardiac tonic, nor is it a true conservator of normal tissue, but decidedly the reverse in each of these particulars."

As tuberculosis causes about one-seventh of all the deaths in our country, and as alcohol among other things has been recommended both to prevent the development of pulmonary tuberculosis and to retard its progress after it has been developed, DOCTOR DAVIS, in investigating the subject, recorded two hundred and ten well marked cases of tuberculous subjects from whom he obtained a perfectly reliable account of their previous habits in relation to the use of alcoholic beverages, whether fermented or distilled. In summing up the result of his investigations he says: "It is thus clearly demonstrated that the use of alcoholic beverages, however uniform their administration, and however long continued, neither prevents the development of tubercular phthisis nor retards the rapidity of its progress." In speaking of his own clinical observations concerning the effects of alcohol in the treatment of disease, he says: "If alcohol be administered it diminishes the sensibility of the cerebral convolutions, thus lessening the consciousness of cold, heat, pain, weariness or weakness as well as mental inhibition and bodily weight. Moderate doses of alcohol cause the patient to feel warm but the clinical thermometer demonstrates that the feelings of the patient are not the *true* index of his real condition. Instead of being warmer the thermometer shows a *reduction* of temperature. The sphygmograph shows a slight increase in the heart's action accompanied by *diminished* force, as well as diminished *depth* of respiration. There is no stage or degree of *true* stimulant or *tonic* effect produced by alcohol on either the nervous or muscular structures of the body, consequently its use as a *stimulant* or *tonic* in the treatment of *any* form of disease is delusive and more or less injurious; instead of being a stimulant, or restorative, a heart tonic, or a direct food, it is a direct *sedative*."

PROFESSOR BUNGE, in his work on "Physiological and Pathological Chemistry," says: "Alcohol *invariably* has a paralyzing influence—a paralytic symptom which is erroneously regarded as one of stimulation, is also found in the deadening of the sense of fatigue. That *mental* exertion of all kinds are better undergone without alcohol is generally admitted by most people who have made the trial. Alcohol then makes *no* one stronger; it only *deadens* the feeling of fatigue. Alcohol produces fatty degeneration of the different organs by diminishing the amount of oxygen taken up and of carbonic acid excreted. It also retards digestion." He further says: "It is a common idea that alcohol produces a warming effect in cold weather. The feeling of warmth depends, in the first place, on the fact that the paralysis of the central nervous system causes an increased blood supply to the surface of the body; and secondly, in all probability, to the blunting of the sensibility of the central organs which are concerned in the sensation of cold."

DOCTOR J. H. KELLOGG, superintendent of the Battle Creek Sanitarium, and at one time a member of the Michigan State Board of Health, and who stands high as a scientific investigator, has recently been experimenting relative to the influence of alcohol upon sensibility, mental action, muscular coordination, and upon digestion. As a result of these investigations he says: "The results of the administration of an ounce of alcohol internally are as follows: (1) To diminish nerve activity. (2) To diminish cerebral activity. (3) To impair the coordinating power of the brain. (4) To lessen muscular strength. (5) To decrease digestive activity to a notable extent." He further says: "Nothing could be more absurd than the use of alcohol or alcoholic preparations in the production of so-called *tonic* effects. Far from being a tonic alcohol is not even a stimulant; recent investigations show that it is a narcotic and a sedative. It lessens nerve sensibility and thereby diminishes the *sense* of fatigue, exhaustion, weakness, or any discomfort that may exist."

As an illustration of the fourth result of DOCTOR KELLOGG's experiments, that alcohol diminishes muscular strength, I might mention a rowing contest which I saw last month at Macatawa Bay during the meeting of the regatta of the Mississippi Valley Rowing Club and the Michigan Yachting Club. The members of one club imbibed freely of alcoholic drinks and the others did not. The side that won every race but one out of ten were those who did *not* use alcohol.

DOCTOR HENRY PARKER, of Chicago, says: "Alcoholic drinks, by preventing or retarding the vital change—the conversion of venous blood into arterial blood—diminishes the functional activity of the secreting and excreting structures generally, and causes a retention and accumulation in the blood of the effete and excrementitious compounds."

DOCTOR T. D. CROTHERS, an eminent specialist in inebriety, and superintendent of Walnut Lodge Hospital, Hartford, Connecticut, has, by repeated experiments with the sphygmograph, found that: "While alcohol apparently increases the force and volume of the heart's action, its irregular tracings show that the real *vital* force is diminished, and hence its apparent stimulating power is deceptive, and in my opinion," he says, "there is no remedy known of such uncertainty and physiologic danger as alcohol. The need today is a new critical analytic study of the entire subject of alcohol in therapeutics."

DOCTOR EDWARD L. FOX, president of the British Medical Association, in his address before the sixty-second annual meeting of that association remarked: "How important it is for a nation to know that any excess in muscular work, as in the forced marches of an army, is rendered *far* more difficult by the use of alcohol; that it not only fails in giving power in the work of the muscles of the heart but acts *distinctly* as a depressant; that it *never* enhances the temperature of the body; and that in its pure state it is in no sense a food. All this knowledge has been gained by the observation of medical men."

DOCTOR CHITTENDEN, professor of Physiologic Chemistry in Yale College, states, in *The American Journal of the Medical Sciences*, that—"As small a quantity as three per cent. of sherry, porter, or beer, lessens the activity of the digestive powers." And he found that in dogs which had been kept under the influence of alcohol for eight or ten days, the uric acid in the urine was increased one hundred per cent. above the normal proportion.

Many other derogatory statements as to the therapeutic effects of alcohol on the system could be given by eminent men both in this country and in Europe, but the quotations already given will perhaps be sufficient to prove that alcohol neither acts as a tonic nor stimulant when given to man in health or disease.

That all classes of acute and chronic ailments can be treated successfully without resorting to alcohol as a remedy, under *any* circumstances whatever, has been proven by the eminent scientist and physician, DOCTOR BENJAMIN RICHARDSON, of England, who has treated all cases without alcohol at the Temperance Hospital, of London, for several years. And for the last few years DOCTOR SARAH STEVENSON, of Chicago, has been doing, at the Temperance Hospital in that city, what DOCTOR RICHARDSON has been accomplishing in London. DOCTOR STEVENSON has for many years been recognized as the foremost woman physician in America.

My own experience and experiments with alcohol are not very extensive. For the last ten years I have used but very little alcohol in any disease. In the treatment of about thirty-five cases of typhoid fever, of which a record was kept, no alcohol was used and no deaths occurred. While I believe the Woodbridge plan of treatment did much, if alcohol had been used I believe the patients would not have recovered so quickly, and perhaps some deaths would have occurred, as the mortality has been shown to be much larger in cases of typhoid where alcohol has been given in the treatment. As alcohol lessens the oxidizing power of the blood and diminishes the amount of carbonic acid gas excreted, and acts as a narcotic and sedative, as has been proven, it would be a *very* dangerous remedy in a disease where the heart and circulatory organs as well as the blood were in a debilitated condition, as in typhoid fever.

On August 30, 1897, at 5:35 P. M., while sitting quietly in my room, with my temperature registering, with a fever thermometer, at 98° Fahrenheit, pulse 64 per minute, and respiration 16, I took at once two ounces of the best brandy mixed with water. Thirty minutes after the brandy was taken there was a sensation of increased heat, especially in the stomach and face, a feeling of dizziness in the head, and the thermometer applied under the tongue the same as before indicated the temperature at 97 4-5° Fahrenheit, the pulse 68, and respiration 17. Sixty minutes after taking the brandy all the symptoms described were increased, there was a slight numbness of the body and the giddiness in the head had increased very much. When walking there was a slight diminution of muscular power and it appeared to be an effort to control the muscles. There was slight nausea, and my temperature was now 97 3-10° Fahrenheit, the pulse was 70 and respiration 17. One hundred and twenty minutes after taking the brandy all the feelings described began to diminish, the temperature was 97 4-10° Fahrenheit, the pulse 70 per minute and respiration 17 per minute. At the end of three or three and one-half hours after taking the brandy I felt about as I did before except a feeling of muscular weakness, with trembling, and a slight headache.

This experiment shows that as a result of taking two ounces of brandy there was a reduction of seven-tenths of a degree in the temperature, an increase of eight beats per minute of the heart, and as there was less force to the heart's action I concluded the increase of the pulse due to partial paralysis of the nerves controlling that organ. There was also an increase of one respiration per minute.

I also tried an experiment with some minnows. First I put a very small minnow into a dish containing two teaspoonsful of alcohol in a half pint of water. In five and a half minutes he turned over on his back, and in six and a half minutes he began to float toward the top and in twenty minutes he was dead. I next took a minnow about four times as large as the first one and put him in the same solution. In six and a half minutes he turned upon his back and made desperate struggles to turn back again but could not. After he had been in the water about twelve minutes, and was perfectly stupid, I removed him into the dish with clean water, without alcohol, and in five minutes he turned and began to swim a little, and in fifteen minutes he was as lively as ever. I now put him back into the first solution and added one more teaspoonful of alcohol, making three drachms to one-half pint of water. In two and one-half minutes he was on his back, and in thirteen minutes he was dead.

After reading the literature of our best scientific men as to the *modus operandi* of alcohol, and by direct experiment, I am convinced that it is a remedy of but little therapeutic value and one that could be dispensed with, even for medicinal purposes, with universal benefit to mankind. I take these views not alone from a moral standpoint but from scientific investigations.

A prominent lawyer of this city told me not long ago that a prominent physician said the physician who thought alcohol was not the proper thing to use in disease and for other purposes was behind the times. If such men as DOCTOR CHITTENDEN, DOCTOR H. C. WOOD, DOCTOR N. S. DAVIS, DOCTOR EDWARD FOX, and many others, are behind the times, I, for one, think it an honor to be with them. The same lawyer said that a brother lawyer, who stands high in his profession in this state, told him that no man lived to the full development of his manhood who did not take a glass occasionally. I pity the man who cannot attain to the full development of all his physical and mental powers without paralyzing the nerves of his stomach and brain with alcohol.

None of the statements can change the facts developed by scientific investigation or the moral law found in the "good book," which says: "Look not upon the wine when it is red within the cup for it biteth like a surpent and stingeth like an adder," and "He who is deceived thereby is not wise."

THE INSIDIOUSNESS OF CONTAGION, WITH SPECIAL REFERENCE TO OBSTETRICS.*

BY W. J. WILSON, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

A FACT which must have impressed us all very much is that the bacteriologist has demonstrated how easily myriads of diphtheria bacilli can be propagated from a few germs secured by brushing a little swab over the site of a diphtheritic growth when in its full vigor and transferring them to the proper culture medium, thus showing the great contagious activity of many of this class of diseases as erysipelas, scarlatina, diphtheria, measles and others which always manage to gain an entrance in some unsuspected way and time. Perhaps there is no one more conscious of this fact by times than the obstetrician whose position is as much surgical as medical, a fact which makes this paper of as much surgical as medical interest.

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* Read before the DETROIT ACADEMY OF MEDICINE.

As we all know it sometimes happens that a patient will develop a severe puerperal septicemia after the physician has observed every antiseptic precaution, and the query arises, How came this? According to the medical and surgical opinions of the present day and of the laity generally due to the teaching of the times, the cause is sought for and laid at the door of uncleanliness somewhere and, no doubt, this is correct. But who is responsible—the physician, nurse, patient, or dwelling of the patient? Let us first interrogate the physician and he tells us that he has observed every antiseptic precaution such as disinfecting his hands and arms, hair and beard; et cetera, that his clothes had not been worn when in contact with any contagious disease since they had been thoroughly disinfected. Now, I consider it quite necessary that the physician should thoroughly disinfect his clothing even if they be new and just fresh from the tailor shop. I have been called into the dwelling of a tailor, having his workshop in connection with his living apartments, when two of his children who were convalescing from scarlet fever were running around the workroom in full bloom of desquamation, contaminating everything with which they came in contact, and for all we know he might have been making a suit of clothes for some doctor at that very time. I have known people some years ago who had attended to their children until they died of diphtheria or scarlet fever to go without disinfection directly to the dry goods store and other places of business in pursuit of clothing and other things necessary upon the funeral occasion, which necessitated their riding on the street car, crowded, perhaps, to suffocation, going into stores and handling piece after piece of goods, which were returned to the shelf only to be purchased by someone else to be taken home laden with germs of disease and, perhaps, these selfsame goods find their way into the home of our puerperal woman.

How many times a patient will ride upon the crowded street car for two or three miles it may be, to reach the office of the physician, to ask what ails him when, lo and behold, he carries with him a well developed case of nasal or pharyngeal diphtheria, or it may be a beautifully developed erysipelatous blossom upon his nose, or a child is brought into your office covered with scarlet fever desquamation.

But it is needless to multiply illustrations. A case which occurred some years ago may serve to show how unwittingly one may carry death to his own home. A gentleman driving home from town one evening overtook a girl of thirteen or fourteen years. As he was passing by she asked him to allow her to ride with him, and as she appeared pale and weak as well as tired he complied with her request. During the conversation which followed she remarked that she had been very sick for several days while in town and that she was on her way home for a while until she could recover her health. She remarked also that the fever had been so severe that she had been as red as fire and that the skin was peeling from her body since. Not being posted in a medical way this man did not understand the significance of her statements although she showed him that her hands were yet peeling. But little more was thought of what was said for two or three weeks when this gentleman's wife was confined and in three days after the obstetrician was surprised to find that his patient furnished him with a well marked case of scarlet fever, and yet he had not attended a case of this disease in months. Now, the secret of the case is, the man (for he was a poor man) had been in the habit of taking his lap robe into the house every night and throwing it over the foot of the bed. So it came that he lost his wife. Could we have laid the blame to the physician? No.

Now, the point I wish to make is that contamination can come about in scores of ways after the doctor has done his duty to the best of his ability, and I think this case illustrates fully how many cases of sepsis occur in spite of the fact that the doctor has done his duty in accordance with indications at the time. There are those who assert that they never have cases of this kind occur in their practice, and I must say that they are exceptionally fortunate, for I do not understand how this luck can happen to any physician attending many cases of obstetrics under such a variety of circumstances as occurs to the general practitioner, who responds to the call of all classes, called to attend an emergency case, perhaps, in the last stage of labor after a midwife of questionable antiseptic ideas has attended the case for a day or two. Our patients stealthily do many things which they know we disapprove but which they are cautious enough not to admit if things go wrong, preferring that the doctor should bear the whole blame whether right or wrong.

I will give one more illustration which shows that the germs of scarlatina are by no means short lived. I attended a child a year or two ago on account of scarlet fever. There were two children in the family the second being sent away as soon as the nature of the disease was discovered, which led to his escape. During the illness of the first child the mother patched a quilt for pastime, which she carefully folded together and laid away in a trunk up stairs. The sick child having recovered, the house properly disinfected, child number two was brought home and remained well for about two months. By this time the lady concluded to finish her quilt and forthwith brought it out and began operations. In about ten days from this time child number two began to develop scarlet fever, which ran the usual course to recovery. Suppose that after this same chain of circumstances I had attended the mother in confinement instead of seeing child number two, and she had developed scarlet fever, and further, that I had been attending a case of scarlet fever, the inference would have been that I had been the medium of contamination for, mark you, this lady did not admit to her husband what she had done until after the recovery of child number two and begged me not to say anything about it lest she might be severely blamed for her carelessness if the child should die. Now, if I had attended the mother in confinement instead of seeing child number two and she had developed scarlet fever under these circumstances and died without making any explanation, there might never have been any explanation and the solution of the matter could have been that I had conveyed scarlet fever to her during my attendance.

I might cite other cases of a similar character tending to show how puerperal septicemia may find a lodging place in our patients every now and then despite the utmost caution on the part of the attending physician, and indeed it cannot be that accidents which are unaccountable and therefore unavoidable in this as in any other pursuit or calling in which we may engage ("for time and chance happeneth to us all") can always be prevented.

Contagion is often very subtile in its work and tends to manifest itself betimes in spite of every precaution.

Heterogenic infection is not always conveyed by the attendants but is occasionally brought about in ways over which they may have no control. The surroundings of the patient should be closely scrutinized and cleansed in every particular, especially if she has but lately occupied the apartments, since we cannot know what disease may have existed there but a short time before as erysipelas, diphtheria, scarlatina, et cetera.

Autogenetic contamination should be borne in mind since gonorrhea, pus tubes, and other pus accumulations within the pelvis do occasionally give rise to puerperal contamination, also purulent nasal discharges in patients.

Puerperal septicemia may occur from insanitary condition of apartments as occasionally happens after physician and nurse have done their whole duty on account of the house being in an unsuspected unsanitary condition, as where people move from house to house; or contagion may be carried by some member of the family or visiting friends, even by cats and dogs when allowed to enter lying-in rooms.

The physician's clothing may contain contagion though it be new, and should therefore always be disinfected under all circumstances. The physician may become contaminated on his way to attend his patient, also, all dry goods and clothing purchased may be infected and should be thoroughly cleansed before use on each occasion.

Queries.—Should the obstetrician wear a gown, such as is worn by surgeons, when in attendance upon labor cases? Should the obstetrician attend contagious diseases when in attendance upon midwifery cases, for example, erysipelas, scarlatina, diphtheria, et cetera, even under rigid antiseptic precautions? Should a case of puerperal fever caused by erysipelatous contamination manifest the usual local and general symptoms of erysipelas, diphtheria of diphtheria, scarlatina of scarlatina, et cetera, or is puerperal septicemia only due to the streptococci and other pus germs which accompany or complicate these diseases?

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, JANUARY 17, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR H. WELLINGTON YATES read a paper entitled "Cancer of the Stomach, With Report of a Case." (See page 147).

DOCTOR DOUGLAS: This subject is one which we are all compelled to be interested in at times because we may have one of these trying and interesting cases resting on our judgment and our treatment. The paper has presented the subject in a very interesting, clear, condensed and pleasant manner and the writer is to be congratulated on the nice summary he has made of all the literature on the question up to the present day. I do not know that there is any point that you can take up in a case of this kind to speak upon to any very great extent and not make yourself interesting to hearers. Certainly the striking point to the general practitioner is the first realization of the fact that he has in all probability a case of cancer of the stomach under his care. I can look back over that particular period connected with some cases I have had and be very much impressed with the fact that a few of those I have treated for other affections now present themselves with this serious malady, and therefore I appreciate the fact that it is impossible for the physician to obtain sufficient control of humanity to enable him to retain such patients in his hands any length of time. His inability to relieve the painful symptoms obviates the necessity of trying to give relief to these patients because they always hear of some other physician who is so thoroughly able to help them that they are anxious to make the change. The advances that have been gained recently in trying to make an early diagnosis in these cases are very gratifying. We cannot make a definite diagnosis as yet, however. It is only probable. The very intricate examination of the stomach contents, before you will receive any data upon which you can rest a diagnosis, involves such an amount of labor and skill that there are really very few of us who have the time to devote to the subject, or having the time, are possessed of that skill which is necessary to make a chemical and microscopical examination. Some writers on the subject look very keenly and persistently for a little piece of mucosa, some little particle, which they can obtain in order to assist them in making a diagnosis. The question, from a chemical point of view, is now resting on the amount of lactic acid which is found in the stomach, and still this subject is on the move. At first I believe it was contended that the presence of lactic acid was a test and accepted as satisfactory, but other writers have shown that lactic acid is present in the stomach from different causes, and is formed in the mouth by the action of bacteria, and again is found in some kinds of food, particularly in bread. Admitting that we have these three sources from which lactic acid can be produced, it is easily seen that the amount which can be formed must be very variable. Now, take the other view of the subject, from a microscopical standpoint. Simply because no microscopic evidence is found in the detritus from the stomach is no sufficient reason why there is no cancer there. The finding of little specks of mucosa is a small piece of evidence, and while it is good evidence in some hands it is evidence which at the same time is a little doubtful. I am not aware that pathologists have entirely accepted the doctrine that one can form a diagnosis upon the evidence of a few cells from the mucous membrane of the stomach, but that, together with other evidence from a chemical standpoint, would probably give reliable data for a diagnosis. Forming an opinion from a clinical point of view in these cases of course compels one to form a late diagnosis. It is impossible to form a diagnosis of a cancerous condition of the stomach in the early stages of the disease. It is only the accumulated impression which is given by the returning visits of the patient and the unsuccessful results of the medicinal treatment combined therewith which leaves upon the physician the impression that this is probably carcinomatous. The years of the patient will lead the physician up to the idea that his patient has or has not carcinoma. We do not find it in young people. What makes the physician clinically suspicious is that a patient who has enjoyed good health, has been free from all affections of the stomach, is well nourished, reaches his fortieth or fiftieth year and then begins with this trouble which does not yield good results from careful treatment. One would then look for cancer of the stomach.

Doctor Maass: The statistical remarks that the doctor has made in his paper have been very interesting to me. I read of the same thing in a paper from England. We note also that not only is cancer of the stomach increasing there but also tuberculosis. Some writers think that cancer begins at one place where the epithelium is infected from some unknown cause and does not involve the adjacent cellular tissue. The other opinion is that the cancer begins at one point in the mucosa and then successively affects the neighboring cells. Now, in regard to the diagnosis by the microscope when small particles of tissue are found in the contents of the stomach. This is sometimes a very difficult thing to do. We cannot make the diagnosis from a few cells. We need a piece of tissue from the affected area.

Doctor Yates: I would like to ask either of the gentlemen who spoke if they have any explanation to give why the obstruction in the case reported should be so pronounced at first and under careful lavage should seem to disappear.

Doctor Maass: Would not the tumor act like a valve? It may be that the stomach got more force after the lavage, resulting in better digestion of the food.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, JANUARY 11, 1898.

The President *pro tempore*, LEARTUS CONNOR, M. D., in the Chair.

Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor W. J. Wilson read a paper entitled "The Insidiousness of Contagion, with Special Reference to Obstetrics." (See page 176.)

Doctor Robbins: This subject appeals to us all, for we have all been in places where the ideas maintained in the paper have occurred to us. In this age of germs, when the people know so much about them, there is more reason to fear the result of discussions unfavorable to the doctors. We often hear a doctor blamed by people, especially if they become suspicious of him. These are the times when the doctor ought to say things favorable to his fellow, especially when we know that so much trouble comes through no fault of the doctor at all. Even though competition is so strong, it is well to keep this principle in mind especially when the liabilitiy of another doctor may arise. The danger of uncleanliness often comes through the nurse and not the doctor at all. I had one fatal case where a patient who had previously had gonorrhea, had a premature delivery at seven months. Some of the placenta must have been retained for she developed sepsis and died. I am always afraid of untrained nurses, especially when I see a nurse who is untidy about her finger nails.

Doctor Bigg: This is a large subject, the borders of which have been touched on this evening. I have had very little contact with the puerperal calamities which the paper foreshadows. In all my cases I have never had the slighest evidence of contagion. Perhaps the result has been in spite of all precaution as much as due to the precaution taken. The disinfection of hands and arms is but a sham, for when going through the form I never cease to wonder at the superb protection that nature throws about the mother. It is difficult to comprehend how it originates. Yet the surroundings, and a thousand other sources which the hands cannot protect or change are acting. I am happy to relate my own experience and might hint at the routine used. I employ a strong sublimate solution which I am assured is above the supposed strength rather than under it. In poor families I always attend to the ablutions of the woman myself.

Doctor Maire: I wish to relate a case which came under my observation in which I should like to ask whether the doctor conveyed scarlet fever to a puerperal woman or not. A doctor had a case of scarlet fever in his family. He was called to attend a woman in labor. The labor was normal. On the second day the infant desquamated. The mother had a chill, and in a few hours developed a rash. On examination of the premises it was found that the privy had a surface drainage, and that great dampness was present under the kitchen. Then it was extremely hot weather. Did the child have scarlet fever in utero? Did the physician convey it? Did the surroundings generate it? The physician within a few days attended another case of confinement and had no trouble. The people tried to cause trouble for the doctor. It would seem as though from the desquamation that the infant had had scarlet fever before birth. The obstetician should abstain from attending contagious diseases so far as possible. When he does attend them, he should see maternity cases first in the day and contagious cases last.

Doctor Chittick: The points brought up in the paper are interesting ones. First as to the source of contagion. Contagious diseases do not arise spontaneously. Yet often where they come from is puzzling. In one instance where a woman took an orphan from an orphan asylum for an exhibition at her house, the child on getting back to the asylum developed diphtheria, and after that several cases developed. It was found that all the cases had used mouth organs indiscriminately. In my diphtheria wards there appeared a suspicious case of scarlet fever in a child who had been in the hospital about two weeks. How did the scarlet fever originate? Was it through the food, milk, bread, et cetera? Yet often in a case like this the family will put the blame on the doctor. Some years ago I had an obstetric case. As it was an emergency case the woman had o borrow a roller towel from a neighbor. This towel had been in the same rawer with a jacket last used on a child who six years before had died of scaret fever. My patient and the baby both became infected with scarlet fever and lied. Yet we seldom have the means of finding out the source of contagion.

Doctor Metcalf: If the value of a paper is determined by the questions rought up, then this is a valuable paper. I believe prophylaxis is most imporant. There are a good many cases in which the infection occurs from within he patient herself. I have seen cases in which the infection occurred from a raafain follicle infected before pregnancy. A case in point is this, in which there was a normal labor, and in which every precaution by both the physician and trained nurse was taken, yet within a few hours the temperature registered 105°, and other signs of sepsis presented. Cases of autoinfection occur from the bursting of an abscess internally where the temperature and pulse run very high. In one fatal case of this kind there was a ruptured abscess the size of a bean and the uterus and vagina were both clean, yet the patient died in four days. Another case, a patient known to have a pelvic abscess, had been advised to have the abscess removed, but refused. She became pregnant, had a normal labor, but died within a few hours from the ruptured abscess. The following problem had to be solved by me recently: I was called in to see a woman who was in the second week of a puerperal fever following a dead fetus. The doctor had curretted, had used iodine and carbolic acid and iodoform suppositories. The temperature was 105°, pulse 140°. It was useless to currette. There was some tympanites and swelling, part of which was found to be due to an excessive quantity of urine in the bladder. A culture showed the presence of streptococci and staphylococci. The uterus and one tube was removed by an operation lasting twenty minutes. The temperature which was 104° before the operation became normal in five or six hours and stayed so for twenty hours when she suddenly died. Autopsy revealed the lungs filled with abscesses. Hysterectomy should have been done before metastatic abscesses developed.

Doctor Connor: It is well to remember that some patients are immune, and cannot be infected no matter how bad the manipulation. Hence two problems present themselves: (1) How to make patients immune; and (2) How to remove the sources of infection from those who cannot be immuned. It is possible that one doctor may have cases that are immune while another may have the other kind and so apparently have more trouble with them.

Doctor Wilson: Many of the internal causes of infection are overlooked, as the presence of gonorrheal infection, and cases of peritonitis from such causes could not be prevented. Doctors should stand by one another.

STATED MEETING, JANUARY 25, 1898.

The President, DAVID INGLIS, M. D., in the Chair.

Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Frank B. Walker read a paper entitled "Hypertrophied Prostate." (See page 157.)

Doctor Manton: I have a specimen of hypertrophied prostate secured from a patient at the Eastern Asylum. It is a pedunculated growth which in the patient acted as a ball valve so that often the urine was suddenly stopped because the growth would close the urethra.

Doctor Emerson: I am not much given to surgery, and I have watched the literature for reasonable assurance of success by surgical means. It is a sad case in which the process of catheterization has gone on for some time—the gradual contraction of the bladder, pyelitis and finally death. The operation of castration is repulsive and will often be rejected, yet it seems to offer better chances of relief than the others.

Doctor Hitchcock: With the surgery of this condition I have had no experience. The effect of castration is very interesting, yet there is another field which appeals to the general practitioner. The doctor refers lightly to "jollying" cases along, yet it is more than that. I have a case in which the palliative process has been used, and by educating the patient I have been able to keep him comfortable. He is very susceptible to changes of cold, and he has been cautioned carefully as to the use of flannels. He is about seventy, and was very comfortable until he was given a general shaking up in a bicycle accident, when a prostatitis was lighted up. In spite of all he has been made comfortable by the use of the catheter.

Doctor Sargent: Why is it that following the operation of castration there is such a high mortality?

Doctor Connor: The late **Professor Palmer**, of Ann Arbor, used to advise as a palliative measure to press the penile portion of the urethra when the patient attempts to pass urine. He argued that such a measure would increase the muscular tone of the bladder and so prevent sequelæ. In a late *Johns Hopkins Bulletin* it was advised to use hydrostatic pressure to increase the strength of the bladder. I know of a case, a physician, who has used a catheter every two hours, and yet has avoided infection for twenty-five years.

Doctor Inglis: Either as physicians or as surgeons we all seem to be in the same boat as regards successful treatment of this condition. All surgical means seem to be either dangerous or ineffective. Certainly as regards medicines we have little to boast of. Still, reasoning from analogy, I venture to suggest for trial, by those who have much more extended opportunities than myself, the administration of viburnum prunifolium. Certainly viburnum exercises a remarkable effect upon a congested and hypertrophied uterus. Now, as I understand it, the prostate gland is of analogous structure. I have been trying it in a few cases with apparent good effect. If viburnum hastens the reduction of a subinvoluted uterus why should it not cause a similar reduction in a congested and thickened prostate? The same analogy holds good in another respect. The congested uterus is surrounded by a marvelous plexus of engorged veins. Any measures which tend to promote arterial flow and lessen venous engorgement tend to diminish uterine congestion. So, to, with the prostate. It would seem that the first step to be taken in a man with a congested prostate is to lessen venous congestion in the pelvis. The frequency with which enlarged prostate and pubis are found together show the probability that the enlarged prostate is surrounded by engorged veins. In view of the discouraging results of surgical efforts it is well worth while to try further medical measures.

Doctor F. B. Walker: I intended no slur on the medical men. I used the word "jollying" to express the moderate degree of comfort secured. Many will get along well with the usual palliative measures. Some will need more radical treatment and it is a matter of good judgment to determine the exact needs of each case. Castration shows a high mortality which has been explained by **White** as due to the novelty of the operation and that it has been done by so many different and often inexperienced surgeons. The mortality is about eighteen per cent. **White** found in autopsies that both the glandular and muscular tissue were lessened. Possibly **Doctor Palmer**'s idea would have the same effect that a deep stricture has on the prostatic trouble, since stricture prevents enlarged prostate.

EDITORIAL ARTICLES.

FREE MEDICAL ATTENDANCE.

To say that the doctors were "on a strike" would savor somewhat of inelegance and fiction, and yet that might be faithfully assumed to be the impression, not uncommon with the public, arising from the dispensary abuse agitation. In the current literature, bearing upon this question, there is evidence of two principal causes of this discussion. One is real and assigned with some diffidence; the other fancied and possibly exaggerated. The most enthusiastic utterance is referrable to the complaint that free dispensaries tend to propagate pauperism. In support of this claim statistics are presented showing the per centum of different classes, and instances, some of them isolated, mentioned of patients able to pay, who receive free treatment at these institutions. The real motive in this controversy is, however, of a mercenary nature. The first opponents of dispensaries were those who were most and directly affected by them in a pecuniary manner. For them the controversy is still being waged.

There is no denying that the doctors have a grievance. Neither can it be denied that they have largely contributed towards bringing it on. They have even invited it. With their approval, at their solicitation and, in many instances, by their assistance, dispensaries have become established, numerous, and some are endowed. They have now become a part of our modern life, and yet by them our prosperity is menaced. They and all other existing forms of medical charity seriously affect the emoluments and prospects of the medical profession, and their continuance will undoubtedly eventually alter in a material degree the lines of medical practice. These vicissitudes have, however, been experienced by the agricultural and many of the wage earning classes. Booksellers have felt them in the establishment of free libraries, yet they have not complained. A revolution has taken place even in professional practice and yet we scarcely recognized it as such. The obstetrician has gradually mastered the whole domain of surgery. The whole subject resolves itself into a process of change, development, evolution, according to natural laws. The outcome will be different from the beginning but no less desirable. During the progression, however, equity and justice will suggest lines of defence and advantage. An instance of this was recently exhibited at the Michigan University Hospital when a wealthy resident of Ann Arbor sought "gratuitous medical service on the score of being a taxpayer." In accordance with the accustomed rules in such cases he was refused admission. His appeal to the regents was also ignored as they had provided against this form of abuse fifteen years previously.

A reform of an exaggerated condition of similar abuses in New York is now under way, being purposed in a bill under consideration by the lawmaking body of that state. If the pending measure shall have become a law the dispensaries will all be placed on a plane with other incorporated institutions and under the direction of the State Board of Charities. It is expected that under a system of new rules and regulations to be formulated by this Board, the condition of the medical profession in that state will be greatly ameliorated. The bill as framed is the result of many months of careful deliberation. Though opposed by the Chairman of the Legislative Committee of the Medical Society of the State of New York, it is confidently asserted by others that "fully ninety-seven per cent. of the physicians of the City and State of New York favor" its passage.

ANNOTATIONS.

THE ROLE OF FAITH IN THERAPY.

THAT the confidence of a patient in the physician and his remedies is desirable perhaps goes without saying. But that this confidence has any logical and important relation to the result few admit and many scarcely suspect. The relief which some patients declare to have followed the administration of placeboes or even the prescription of remedies is often received with a feeling akin to contempt for the innocent patient. Wise and dignified as materialistic practitioners feel in thus contemplating and disposing of these questions they are only complacently ignoring a form of therapy by the resources of which the charlatan is now and then enabled to triumph over so-called rational medicine. It is a matter of frequent observation that the mind exercises a powerful influence over the body, impelling it at times to extraordinary efforts. The efficacy of this power, which is in reality faith, presupposes a rational foundation and explanation. The establishment of a logical natural basis would eliminate the idea of a supernatural agency and the presence of a mysterious power and relegate it as one of the forms of true therapy. Such a basis is found in the laws of the reasoning mind. In the attempt of the mind to reach, grasp and secure the fulfillment of its expectations faith becomes its hypothesis, the means by which confidence is inspired. This hypothesis may be in itself either truthful or false and yet in the receptive unquestioning mind the effect is easily produced. Faith is then the result of suggestion to the uncritical mind and, as pointed out by A. H. **Burr** in *The Medical Record*, is one form of suggestive therapeutics. As its existence depends upon the abrogation of the critical faculties and judgment its efficacy is limited to those in whom the physician is able to induce a childlike attitude of mind.

THE ETIOLOGY OF CANCER.

The terrible fate to which the victim of cancer is doomed lends importance to any evidence adduced to explain its cause or cure. The possibly increasing prevalence of this dread malady calls loudly for renewed and repeated investigation by the results of which some means of control may be discovered. Experimental and bacteriological studies have not been meagre except in results. Clinical and pathological observations have heretofore served no other purpose than to suggest hypothetical causes as yet unproven. An interesting and meritorious contribution by **Doctor Edward Noel Nason** in the *British Medical Journal* presents an analysis of nearly five hundred cases, studied according to geographical distribution. The report indicates a contrast of natural hygienic conditions in different districts and a correspondingly greater prevalence of cancer in some districts than in others. In explanation he remarks that "the facts point most strongly to some direct connection between residence in the neighborhood of sluggish streams or ill-drained, sodden, contaminated soil and the prevalence of malignant disease." As a conjecture he further assumes the source of cancer to be some external agency, a microparasite of the nature of a protozoon, comparable with the protozoon associated with malarial fever. Another noteworthy fact pointed out is the greater proportion of surface epitheliomata in the more favorable regions, and the absence of malignant disease of the less commonly affected internal organs, while in the less favorable districts the latter are more numerous. It will be interesting to know whether the facts elicited in these investigations will be borne out by inquiries from other sources and districts.

PROGRESS IN RECTAL SURGERY.

The last twenty years have witnessed a marked change in the disposition of rectal cases. Respectable members of the regular profession have of late given these diseases more attention, as a result of which the literature has grown abundant, the quack been outwitted, and this branch of surgery reclaimed. From piles to cancer all rectal affections have in intelligent hands passed from the useless and destructive effects of salves and caustics to the amenities of surgical precision. The first regular practitioner in this country to devote himself exclusively to this specialty was **Doctor Joseph M. Mathews**, of Louisville, Kentucky. This accomplished gentleman, who is also known as the silver-tongued orator of the medical profession, has been announced to appear by invitation April 25, next, before the Detroit Medical and Library Association. His paper will be entitled "Extirpation of the Rectum," and is expected to be supplemented also by operative demonstrations. The doctor, though progressive, is known to look with some disfavor upon **Kraske**'s operation. His more conservative use of the "circular method" will doubtless meet with general approbation.

THE CAUSE OF SUNSTROKE.

The startling contention has been made that sunstroke is not heat fever but an infectious disease. **Doctor L. Westenra Sambon**, by whose authority the publication is given in the *British Medical Journal*, maintains the existence of two distinct conditions usually classified under the term "heat stroke." One—heat exhaustion—he identifies with syncope. The other—thermic fever—he prefers to denominate as siriasis. After referring to the variously assigned causes of these affections he remarks concerning the latter: "The symptoms of the disease, its relapses, its morbid anatomy, its peculiar geographical distribution, its epidemic outbursts, the conditions of climate and soil under which it prevails, the relative immunity to its attacks afforded by acclimatization all clearly point to the specific infectious nature of the disease." In commenting upon these aspects of the disease he presents a vast array of verified facts calculated to arouse honest skepticism concerning its meteorological or autotoxic nature.

CONTEMPORARY.

THE ETHICS AND POLITICS OF MEDICAL BOOK-REVIEWS.

[THE PHILADELPHIA MEDICAL JOURNAL.]

We have talked with many editors concerning book-reviewing, and for years have attentively studied the methods and motives at work. As a result we have no hesitancy in saying that by far the greater part of the reviews in our two hundred and seventy-five medical journals are not only incompetently done, but they are worthless scientifically, ethically, and as literature. This everybody knows well enough, and it is admitted by editor, author, publisher, reviewer and profession. The whole business needs revolutionizing or abolishing. The review department of journals whose editors have any trace of journalistic or professional conscientiousness is the terror and the disgust of these editors. It is the football of commercial interests, dominated by prejudice or by personal motives, either of the editor as regards his publisher, or as regards his author; or, on the other hand, of a hundred possible jealousies and concealed motives of the reviewer, as regards the author. When secret malevolence does not rule, over all is the paralyzing hypnosis of the desire to say pleasant things, to avoid arousing enmities, and not to hurt the feelings of the author and publisher. The result is that the whole affair, from one motive or another, is deeply dyed with dishonesty, superficiality, flattery, or malignancy, but all thoroughly misleading.

That is the diagnosis. Pages might be devoted to the symptomatology. Editors, for example, refusing to review books of their rivals, or doing s maliciously; publishers dictating good reviews of their own books, or "swapping" good reviews with certain rival publishers; publishers coercing th character of reviews in other journals than their own by a dozen contemptibl means, or refusing to send any of their books at all to the noncomplaisant; medical journals indiscriminately reprinting the publishers' circulars and praising every book with stereotyped phrases—for the sake of the private librar shelves; authors anonymously reviewing their own books; lenient editors, t avoid trouble, bunching twenty so-called reviews on a page, et cetera, et cetera, with infinite variations, *ad nauseam*.

We cannot go now into the treatment, but wish only to speak of one complication of the disease that needs a bit of clearing up. Reviewers may be divided into three classes: the anonymous (or editorial), the initialed (or hermaphroditic), and the entirely-signed (or purely individual). The last class may be passed over, because when a reviewer signs his whole name his opinions carry weight only according to his personal ability, and are recognized by all as simply one man's opinion. The neuter-gender review by initials is "neither flesh nor fowl nor good red herring." Neither the journal nor the individual is held responsible.

All reviews, like all editorials that have any respect shown them, or that have carrying power, are anonymous, and for these the journal must assume direct and absolute editorial responsibility. Any other course results in ludicrous and silly inaptitude and self-contradiction. If the periodical does not assume this reponsibility, there is no right to use the editorial "we," and no right, human, or professional, or commercial, to review the book at all. The spectacle of an editor, for example, in one column, reviewing eulogistically a book that denounces on every page the germ theory of disease, and maligning the motives of those who believe in the germ-theory, while on another page of the journal, editorially upholding the doctrine—all this is illuminating—of many things.

We are thorough believers in the wisdom of the anonymity of editorials and reviews in medical journalism, and the strict holding of the journal to an accountability for every editorial utterance. It would seem that this position would hardly need defense. All high journalism has come to this practice, and it is the only condition of ethical and journalistic progress. There is something in the editorial "we" that cannot be gained by any egoism or individualism, however expert and able. Nos becomes νοῦς by putting "you" into it. A good journal must have a character of its own, that is different from that of any other journal, and from that of any one or more of its editorial staff. It is, in a word, if at all true to any ideal standards, an organ, the spokesman of many and of all, and must, consciously or unconsciously, trend to nonindividualism, to action in the interests and aims of the many. It is this very impersonalism that gives its opinion weight and unselfishness; an editorial writer must merge his individuality, his personal peculiarities, into the larger general purposes, look for the light and truth that is beneath individual imperfections, struggling to larger issues and for the common good. Anonymity in men, if not in puppets, quenches whims, foibles, and crankeries, and leads to attention riveted upon the wants of and duties to the thousands of readers. Let every subscriber hold the composite editorial personality strictly responsible for what is said in all unsigned articles. In this way the careless and *laissez-faire* editor can be brought up standing before the bar of professional responsibility. One result of such an accounting would be an ending of the thousand disgraces of medical-book reviewing, which at present make our journalism the butt of ridicule of every conscientious and wide-awake reader.

MEDICAL NEWS.

THE NEXT MEETING OF THE STATE SOCIETY.

THE executive committee having in charge the arrangements for the Detroit neeting of the State Society give an encouraging report. All the sessions of his meeting will be held in Harmonie Hall at the corner of Wilcox and Center treets. The exhibits will be made on the second floor. The arrangements for this purpose are said to be specially advantageous. At the conclusion of the general Thursday evening session a reception will be tendered the society by its older Detroit members. Following the refreshments a superb entertainment will be given. In lieu of the usual circular an artistic handbook program is being prepared. A large attendance is expected. We presume to state that visiting physicians may anticipate a profitable occasion. The program will be issued about the 20th.

DOCTOR SEGUIN'S DEATH.

Doctor Edward C. Seguin, aged fifty-five years, recently died in Greater New York of cirrhosis of the liver. The doctor was born in Paris but came to this country when a boy, and graduated from the College of Physicians and Surgeons of New York City at the age of twenty-one years, having already done duty as a naval cadet in the regular army. After serving several years as post surgeon in New Mexico he resigned to pursue clinical study in Paris. On returning to America in 1871 he began practice in the metropolis, and soon achieved eminence as a neurologist. He was likewise well known as an editor and literary writer, and as professor in the medical school from which he graduated.

PENSIONING ASYLUM PHYSICIANS.

Senator Page has introduced a bill in the New York legislature which provides for pensioning medical officers in the State Hospitals for the Insane "who have become physically disabled by reason of injuries or illness incurred or contracted while in discharge of their duties." To be eligible for a pension an applicant must have been in the employ of the state fifteen consecutive years, and this service insures a life annuity of one-third the salary in vogue when the pension is granted. Physicians who have served the state twenty years shall receive one-half the current annual salary. The power to grant pensions is practically vested in the state commission in lunacy, their action merely being subject to approval by the chief executive.

THE DEMISE OF A MEDICAL BARONET.

Sir Richard Quain, baronet, died in London on the 13th ultimo. He was born in Mallow, Ireland, on October 30, 1816, and made his debut in professional life as clerk in a Limerick apothecary shop, obtaining the degree of M. D. from the University College, London, in 1842. He was connected with the hospital of this college in the capacities of house surgeon and house physician, and later was successively chosen a fellow of this college and the Royal College of Physicians. The honorary degree of M. D. was subsequently conferred upon him by the Royal University of Ireland and by the University of Dublin. He achieved distinction as physician extraordinary to Queen Victoria, president of the general medical council, editor of a medical dictionary, and author of many medical and scientific works.

STATISTICS REGARDING INFANTILE SCURVY.

The American Pediatric Society is making a collective investigation of infantile scurvy as occurring in North America, and earnestly requests the cooperation of physicians, through their sending of reports of cases, whether these have already been published or not. No case will be used in such a way as to interfere with its subsequent publication by the observer. Blanks containing questions to be filled out will be furnished on application to any one of the following committee. A final printed report of the investigation will be sent to those furnishing cases: J. P. Crozer Griffith, M. D., Chairman, 123 South Eighteenth street, Philadelphia; William D. Booker, M. D., 853 Park avenue, Baltimore; Charles G. Jennings, M. D., 457 Jefferson avenue, Detroit; Augustus Caille, M. D., 753 Madison avenue, New York City; J. Lovett Morse, M. D., 317 Marlboro street, Boston.

MINOR INTELLIGENCE.

In a recent issue reference was made to a resolution regarding tuberculosis, which was reported to have been passed by the State Board of Health. The Secretary, Doctor Henry B. Baker, desires equal prominence given to the statement "that the Michigan State Board of Health never adopted any such resolution as is there attributed to it."

The New York assembly has been asked to deal with "An Act to Regulate the Practice of Midwifery in Montgomery County by Others than Legally Authorized Physicians." The measure prescribes an examination and license requirement for persons desiring to practice midwifery in said county, and prohibits licentiates from employing instruments or any "poisonous or dangerous drug."

The medical guild of Paris numbers about two thousand five hundred. Twelve hundred of these have an income of less than $1500; eight hundred realize from $1500 to $3000; three hundred average from $3000 to $5000; one hundred have acquired a practice of $10,000; about a dozen make from $20,000 to $30,000; and the professional services of five or six yields from $40,000 to $50,000 each.

The study of tuberculosis will be pursued by a committee recently appointed by the Academy of Sciences of Paris. The particular line of investigation will involve the spread of this disease and the most potent means of thwarting it. The committee consists of the two permanent secretaries, the members of the section of medicine and surgery, and MM. Brouardel, de Freycinet, de Jonquieres, Chauveau, Duclaux, Arm, and Gautier.

The next annual meeting of the Medical Association of Missouri will be held at Excelsior Springs on May 24, 25 and 26, under the presidency of Doctor Jacob Geiger, of Saint Joseph. The secretary previously announced that the meeting would occur on May 17, 18 and 19, but it was afterward learned that better accommodations could be secured by changing the date. Fifty-two papers are listed in the preliminary program for presentation at the meeting.

Doctor Charles B. Kelsey, whose connection with the New York Post-graduate Medical School and Hospital was recently abruptly and irregularly terminated at a meeting of the board not fully attended, has been reinstated as a professor in that institution by a peremptory writ of mandamus issued by the Supreme Court. The court declared the dismissal illegal on the ground that a majority vote of the entire board is necessary to oust a member of the faculty.

The Ohio State Medical Society will meet in Columbus on May 4, 5 and 6. The announcement is made that Doctor Nicholas Senn will deliver the address on Surgery and Doctor Hobart A. Hare the one on Medicine. This organization has a membership of about one thousand. There are five thousand physicians in the Buckeye state eligible to membership, and strenuous efforts are being exerted to form county societies and thereby augment the ranks of the state society.

The Alumni Association of the University of Michigan is compiling a directory of students who have attended this institution and is desirous of obtaining the address of every matriculate and graduate. All former students are requested to assist in making the work complete by sending their names and addresses, class, department, and degree, as well as the names and addresses of any others they may happen to know, to James H. Prentiss, the General Secretary of the Alumni Association, Ann Arbor, Michigan.

Doctor William S. Playfair, for twenty-five years professor of obstetrics and diseases of women in King's College, London, has resigned. He was not required to vacate the chair because of having reached the age limit—a report that has gained currency in some quarters—as he could serve nearly four years more before becoming ineligible on that score. The reason given by the doctor himself is that, "having completed a quarter of a century's service as professor of obstetrics, I think it is now high time to make way for others."

Bombay was recently the scene of a plague riot in which the low caste Hindus and Mohammedans were arrayed against the Europeans. While making a tour of inspection a pleague-search party was attacked and two soldiers killed, whereupon the police discharged a volley at the mob with deadly effect to seven persons, many others being wounded. The spirit of revenge now prompted the rioters to attack a plague hospital, the offices and stores of which were burned and the doctors assaulted, one of the latter meeting death in the melee.

The Kansas legislature is considering a bill which contemplates imprisonment and castration for rape. The measure provides that any person who shall be convicted of rape or incest; and any minister, clergyman, priest or teacher having charge of a religious organization or school who shall be convicted of illicit connection with any unmarried virgin female member of his charge under twenty-one years of age; and any guardian of a female ward who shall debauch her, shall be imprisioned for a period ranging from five to twenty years and subjected to castration.

The Cincinnati Academy of Medicine has a membership of nearly four hundred. At a recent meeting of this progressive and influential organization the following officers were elected to conduct its affairs: President, Doctor Louis Schwab; first vicepresident, Doctor J. C. Oliver; second vicepresident, Doctor Estella Riley; treasurer, Doctor S. E. Allen; secretary, Doctor W. H. Crane; corresponding secretary, Doctor F. E. Kugler; financial secretary, Doctor M. A. Tate; librarian, Doctor A. I. Carson; trustees, Doctors N. P. Dandridge, J. A. Murphy, and J. T. Whittaker.

Mathews' *Quarterly Journal of Rectal and Gastro-Intestinal Diseases* for April, 1898, announces the following change: "The next issue of this journal will appear as a monthly. . . . . At the last meeting of the Louisville Surgical Society this journal was made its organ, and its proceedings each month will be published in this journal exclusively. . . . The name of the journal will be changed in order to indicate its scope, and will hereafter be known as *The Louisville Journal of Surgery and Medicine.*" The Physician and Surgeon will welcome the more frequent appearance of this able and dignified journal.

The regulation of the sale of patent medicines is contemplated in a bill now pending in the New York legislature. It provides that the formula of every patent medicine sold or offered for sale in that commonwealth shall be printed on the label of the bottle or package containing such medicine, and on the outside wrapper as well. The sale of a patent medicine without the formula, or with an incorrect formula, shall be an offense punishable by imprisonment for a period ranging from three months to one year, or by fine involving from fifty dollars to five hundred dollars, or by both, at the discretion of the court.

RECENT PUBLICATIONS.

REVIEWS.

A TEXT-BOOK ON SURGERY.*

THE frequent appearance of new text-books on surgery and of revised editions of previous works during the few latest years, is significant of the progressive changes during this short period. The profession has been deluged and well nigh surfeited with productions from both single and combined authorship and the competition for preferment has been strong. The changed ideas and improved methods of the present are in many respects so different from those of even the recent past that single or individual authorship presents a gigantic task. Another difficulty more frequently met with of late is that of correctly interpreting the views of original workers. On more than one occasion have we observed in recent text-books and reports a failure on the part of the editor to grasp certain points considered by the original author of great importance in connection with the central principles involved. These facts powerfully influence the value of works on broad subjects, enhancing those combinedly authorized and precluding the possibility of individual authorship to equal strength.

The original edition of this work was published in 1886. A second revised and enlarged edition appeared four years later. The volume now offered is a complete revisal of the former with the addition of much new matter and many original engravings. The work evidences great pains, and yet there are characteristics in its make-up which, in a free criticism, should not be overlooked. Measured by a fair standard, a text-book intended for practical utility and asking general approval should possess among others these qualities: It should exhibit a just discrimination in the treatment given the several subjects consistent with their relative importance. It should include all ideas of permanent relative value. It should admit of no unimportant or novel matter to the exclusion of that which is relatively of greater importance. There should be no manifestation of an overweening interest in any personal theories or methods that does not harmonize with the general character of the work. As bearing upon these points may be mentioned the abridged treatment of the subject of tumors, the prolonged consideration of aneurisms—comparatively rare affections, an exhaustive and argumentative dissertation on the author's method of hip-joint amputation, and the utter disregard of an equally important procedure, namely, Phelps' original method of treatment of clubfoot, although the name of the latter is mentioned as having performed an hip-joint amputation by the author's favorite method.

Notwithstanding these adverse references the work sustains the high esteem in which the author has been held and whose authority on surgery has for many years been of a high order.

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*By John A. Wyeth, M. D., Professor of Surgery in, and President of the Faculty of, the New York Polyclinic Medical School and Hospital, et cetera. Third edition, revised and enlarged. New York: D. Appleton & Company, 1898.

A COMPENDIUM OF INSANITY.*

As implied in its title this little book is a concise compilation of the known facts relating to the various mental diseases. It is written in a plain popular style and will prove useful also to the general reader, especially to the legal profession and to those laymen whose vocation and associations involve a knowledge of these forms of disease. The large plain type employed is also fascinating.

* By John B. Chapin, M. D., L. L. D., Physician in Chief, Pennsylvania Hospital for the Insane; Late Physician-Superintendent of Willard State Hospital, New York; Honorary Member of the Medico-Psychological Society of Great Britain and of the Society of Mental Medicine, Belgium, et cetera. Illustrated. Price, $1.25 net. Philadelphia: W. B. Saunders.

THE YEAR-BOOK OF TREATMENT.*

In this fourteenth annual volume of the series the reader is furnished with a digest of the medical progress made during the past year. The work is systematically arranged in twenty-five chapters covering all branches of practical medicine. Doctor G. A. Gibson, Lecturer in the Edinburgh School of Medicine, and Doctor Herbert P. Hawkins, Physician to Saint Thomas's Hospital are additional contributors to the former staff. It is one of the most desirable and readable books for the progressive physician that we have seen.

* The Year-Book of Treatment for 1898. A Critical Review for Practitioners of Medicine and Surgery. Crown octavo, 488 pages. Cloth, $1.50. Philadelphia and New York: Lea Brothers & Company.

AMBROISE PARÉ AND HIS TIMES—1510–1590.*

This work brings a hearty welcome. Lay people and even the profession know and read too little of the biographical literature of our great characters in medicine and surgery. In this book are found the life and words of the "John Baptist of Surgery." The "Journeys in Diverse Places" are especially interesting and refreshing. The author has cleverly placed these in a background of history with which Paré's life was so closely connected. The portraits and other illustrations also contribute materially to the elegant make up of the work.

* By Stephen Paget. Price, $2.50. G. P. Putnam's Sons, New York and London: The Knickerbocker Press.

TRANSACTIONS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.*

This, the fourth volume, contains the proceedings, papers, and discussions of the American Medico-Psychological Association at its fifty-third annual meeting held in Baltimore, May 11–14, 1897. The entire volume is a valuable publication. Several of the twenty-five papers are exhaustive and deserve wider circulation. The illustrations and text-work are alike very creditable.

* Published by the American Medico-Psychological Association.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

A SYMPOSIUM ON TUBERCULOSIS.

THE SURGICAL TREATMENT OF TUBERCULOSIS OF THE LUNGS AND PLEURA.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IN the time allotted me for the discussion of this subject it will be impossible of course to give anything like a just resumé of its literature up to this time.

In dealing with the chronic diseases of the pleura some writers of a radical turn of mind are disposed to include all forms of chronic disease under the head of tuberculosis. It is scarcely necessary, however, for me to call the attention of this body of practitioners to the fallacy of such a classification, inasmuch as paracentesis and thoracotomy have been employed since ancient times for the relief of the chronic nontubercular diseases of these parts. Yet some practitioners believe that all cases of pleuritis are of a tubercular nature. While it is true that an apparently acute pleuritis is often the forerunner of pulmonary phthisis or tuberculosis, it is not true that a large proportion of the cases of acute pleuritis bear any such relationship.

When tuberculosis of the pleura occurs, it is generally associated simultaneously with tuberculosis of the lung, although exceptionally it may follow as a secondary affection, just as tuberculosis may follow an atypical pleuritis or an atypical pneumonia, especially when there exists in the patient a tendency toward tuberculosis. The differential diagnosis in such cases is not always easy. For our practical guidance the rule might be established to perform thoracotomy in all cases where there is evidence that the pleural cavity contains pus. In chronic cases with adhesions the surgeon is justified in going so far as to exsect, as may be necessary, portions of several ribs. The operation of horocotomy, however, should always be confined to cases characterized by a *hronic* course, for the concensus of opinion, based upon experience, forbids the opening of the pleural cavity in cases characterized by serous or seroplastic exudation only, if not localized by adhesions of both pleural layers.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

While many cases of empyema, especially in children, may be successfully evacuated and drained without exsection of rib or ribs, still in the majority of instances the practice of exsection will be found usually more efficient, because drainage and proper irrigation cannot always be satisfactorily brought about otherwise. In cases in which there is a great deal of thickening of the pleura with semiorganized adventitious layers or adhesions, a free opening will be found indispensable. Indeed in such cases many surgeons advocate the exsection of portions of several ribs at once in order to facilitate the subsequent adjustment of the contracted lung to its thoracic cavity, or to get rid of large chronically suppurating surfaces of pleura. For this reason Estlander's or Shede's operation, or Tuffier's or Delangiere's formidable plan of stripping off the costal and adventitious visceral pleura are popular with many surgeons. From my own experience, however, I am obliged to take a conservative stand, for while admitting that there are cases of such character that this formidable mutilation is justifiable, yet the disastrous results which may and do frequently follow these operations should cause hesitation in performing them—excepting as measures of last resort.

The operation of thoracotomy should always be preceded by aspiration in order to localize the diseased region and ascertain the character of the contents of the pleural cavity, for, as said before, the free opening of the pleural cavity for the extraction of serous or seroplastic products is rarely justifiable, on account of the almost inevitable probability of exciting general pleuritis or cerebral meningitis. In making the operation of thoracotomy, not only the external incision but the stripping of the ribs of periosteum should be done without puncturing the pleural membrane, the latter being cut as the last step before introducing the drainage tube. This not only simplifies the operation but lessens the danger to the patient. Some surgeons (Godlee, Volkman and others) believe in making a very small opening into the pleura just sufficient to admit a finger or a rubber probe for subsequent exploration; while others think that, having properly exsected the ribs, a free opening into the pleural sac should be made. Practically it is impossible to follow either plan in all cases; for sometimes it is necessary to open up the pleura wide enough to admit the hand in order to remove plastic deposits and break up adhesions. Many surgeons and pathologists have called attention to the danger of the absorption of septic material through the open ends of the bones (the ribs). Jonnesco and others believe that the metastatic inflammation of the cerebral meninges which often occurs after thoracic operations may have been brought about by the conduction of the septic material of the abscess through the open ends of the freshly cut ribs. There may undoubtedly be some truth in this conjecture because some cases do seem to show signs of septic poisoning befor the advent of the meningeal inflammation; but on the other hand in man instances no such evidence is presented. The question of how extensive thoracotomy should be made hinges upon the judgment as based upon th nature of the case. No rule can be adduced. It is certainly very easy t make a mistake in this matter. The writer has made limited operations i cases in which subsequent developments have shown that more extensiv exsections and currettements would have been better, and on the other hand in some cases he has made extensive exsections of ribs and pleuræ where a more limited extent of cutting would have been better for the patient or possibly have saved life.

The question of irrigation is one which is too carelessly considered. Indeed there is room for the exercise of fine shades of judgment concerning the time to begin with irrigation, how often it should be done, and the amount of fluid to be injected each time. In using peroxide of hydrogen, for instance, we must not lose sight of the fact that gas is developed very rapidly from this fluid inside the thoracic cavity, and if the disease be upon the left side of the patient a fatal result may follow the injection and retention of too much fluid on account of the pressure of the gas evolved. For this reason alone it is generally advisable to make the incision in the pleura large enough to admit of two good sized tubes side by side, so that there will be no delay in the outflow of the irrigating fluid.

Pneumotomy as a surgical measure was mentioned as early as 1710 by **Baglivus**. In 1844 **Doctor Hastings**, of England, and **Doctor Storck**, of Germany, incised and inserted drainage tubes into apex cavities of tuberculous lungs, and into abscesses of lungs. In 1873 **Mossler** tapped pulmonary cavities and injected iodine and other antiseptic solutions into them. After this from time to time **Cayley**, **Godlee** and **Douglas Powel** likewise opend up pulmonary cavities freely and inserted drainage tubes. In later years, led by successful experiments upon the lower animals, pneumogectomy or excision of portions of lung has been practiced, but with nearly always fatal results. There were some noticeable exceptions, however, among them an ancient case reported in the *London Lancet* in 1843, that of a man who survived for several years after the exsection of a portion of the apex of his lung. At the Tuberculosis Congress at Paris in 1891 P. **Poirier** and **Jonnesco** reported twenty-nine cases of incision and drainage of apex cavities. Of these, fifteen cases were ameliorated, four were cured, nine died immediately after the operation, and in one case the result is not known. The operators did not always resect the ribs. On the contrary they seemed to be opposed to it. They incised the pleura and parenchyma of the lung at the second intercostal space, using the galvano-cautery knife entirely upon the lung tissue. **Truc**, in 1885, and **Fabricans** in 1894, each wrote an exhaustive monograph on this subject. These authors, as also **Mastin**, and **Tait** and **Abrahams** of our country, advocate resection of the ribs and then opening into the parenchyma of the lung whether the two pleural layers are adherent or not. **Fabricans**, according to **Tait** and **Abrahams**, gives the recorded cases of pneumotomy for the previous twenty years, thirty-one of which were performed for abscesses, et cetera, and twenty-six which were performed for gangrene. The writer gave the clinical history of three cases of pneumotomy before the American Medical Association at its meeting in 1893, one of which was complicated by extensive pleural disease. Of these three cases two lived two and four weeks respectively, while one recovered, was apparently well for a number of months and subsequently died of cerebral meningitis. **Abrahams** and **Tait** have recently reported two cases of pneumotomy, one of which, made for a pneumonic abscess, was successful.

Among the difficulties attending the operation of pneumotomy is hemorrhage, pneumothorax, secondary acute pleuritis of the opposite side and cerebral meningitis. Besides, there is often the difficulty of localization which is sometimes insurmountable. BOUCHARD has suggested the use of skiagraphy for lessening the trouble of differentiation and localization. I have not used it yet, having depended entirely upon percussion, auscultation and aspiration. The avoidance of hemorrhage may usually be accomplished by the use of the galvano-cautery or Paquelin cautery for incising the pulmonary parenchyma. Large vessels can be avoided by preceding the cautery knife with the finger, when pulsating points may be detected and thus avoided.

The cases operated upon by the writer were not treated afterward by irrigation, but always by insertion of the drainage tube and the injection of chlorine gas. All cases of pneumotomy which have been treated after operation by fluid irrigations have died either of pneumothorax or pyopneumothorax or secondary pleuritis. If chlorine, bromine, or other disinfecting *gas* be used, no irritation of the pulmonary tissues will be produced while the disinfection will be quite as efficient.

I have not gone into the details of the operation of pneumotomy because I know you are all familiar with it and our time is limited.

In conclusion, I beg to say that although this comparatively new field of surgery has furnished as yet no strikingly encouraging results, yet I believe that in well selected cases much good can be accomplished by pneumotomy for the relief of simple abscess of the lungs, and also for localized tubercular processes, both of which conditions, as you know, constitute as it were local depots for maintaining continued septicemia.

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CEREBRAL TUBERCLE.*

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TUBERCLE constitutes probably the most frequent pathological lesion of organic cerebral disease. This is evident when we remember that a very large proportion of cases of meningitis in children are of tubercular origin and the further fact that of brain tumors, excluding syphilitic, more than one-half are tubercular. Gliomata and sarcomata together number less than tubercular tumors. Carcinoma of the brain is probably a rare cause of cerebral tumor. Practically, then, when the diagnosis of brain tumor is made, if we can exclude syphilis, we have to deal, in more than half the cases, with a tubercular growth. Such being the case a study of the tubercular lesion becomes important.

As regards tubercular tumors there are some features of special interest in their relations to the surrounding tissues. The question of operation for brain tumor involves always the problem of the possibility of separating the new growth from the adjacent brain substance. It is a peculiarity of the greate number of brain tumors that they have no sharp line of demarcation. Th neoplasm shades insensibly into the surrounding tissues. This is, apparentl the result of the extreme softness of the normal brain tissues. There is so littl connective tissue in the brain that the process of an inflammatory hyperplasi of connective tissue around the obnoxious neoplasm does but rarely take place here while elsewhere it is common. If the neoplasm sets up an inflammatory process in the adjacent brain structure it is quite as likely to end in necrosis of the delicate structures, with softening, as in the establishment of a limiting wall. Generally brain tumors, however, do neither, but without exciting any special inflammatory reaction, the neoplasm easily extends in all directions. There results an infiltrating tumor. While, at the postmortem, one can easily decide where the main mass of the tumor is, it is quite impossible to tell just where the limit of the tumor is. It shades off into healthy brain substance. If, then, it is impossible for the pathologist to separate the new growth postmortem, how much more impossible is it for the surgeon to remove the growth during life? Practically this fact greatly limits the possibility of surgical removal of brain tumors.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

It is in this connection that a peculiarity of many tubercular tumors is of interest. They form "solid, firm, rounded masses, having little resemblance to tubercle in its miliary form. They commonly vary in size from that of a pea to that of a walnut and occasionally attain still larger dimensions—that of a hen's egg or even of the closed fist. Their section presents a uniform, opaque, cheesy aspect, sometimes softened here and there, but never in a large area. The periphery of the mass is softer, grayish and translucent. It is in this gray zone that the growth of the tumor occurs by the detachment and coalescence of miliary granulations which quickly degenerate and blend with the caseous mase. The growth, apparently, takes place in the lymphatic sheaths of vessels and within the vessels thrombosis may occur. Hence the absence of vessels within the mass and the quick and uniform degeneration of its elements. If such a tumor ceases to grow the peripheral layer may undergo a fibroid change and so form a capsule. Occasionally the degenerated mass undergoes partial calcification. Rarely the tissue softens and a collection of pus results, increased, perhaps, by adjacent inflammation. These tumors generally occur within the cerebral substance; now and then they spring from the dura mater and merely compress the brain without invading it."—Gowers.

It is this peculiarity of almost perfect isolation of the tumor from adjacent tissues which makes tubercular tumors of special interest to the surgeon. I have seen a tubercular mass drop out of the brain as completely detached as a peanut out of its shell. If the surgeon cuts down upon such a tumor its removal is not only possible but easy. There is no doubt as to its limits and little or no hemorrhage.

One-third of the tubercular brain tumors occur in the cerebellum. They often occur in the pons, crus or basal ganglia. Syphilitic growths rarely occur in the cerebellum or the corpus striatum or basal ganglia.

As regards diagnostic symptoms little can be said. As regards the general brain symptoms of tumor, tubercular growths act as any other tumor of like ocation and equal rapidity of growth. Like all brain tumors they are liable o show variations in the intensity of symptoms. These variations probably depend upon changing degrees of pressure and irritation due to the inflammatory reaction surrounding the tumor. At times there is such an amelioration of symptoms as to give rise to encouragement. At other times there is a remarkable exaggeration of unfavorable symptoms. Owing, however, to the character of the progress of tubercular growths, as described, such great variations are not common in tubercular tumors. The progress is apt to be more uniform in tubercular, isolated growths than in infiltrating tumors. Tubercular tumors seem no more liable to set up meningitis than any other neoplasms. Indeed as syphilitic growths almost invariably take their origin from the membranes of the brain or the contained blood-vessels they are rather more likely to set up symptoms of a local meningitis than are tubercular growths which generally are found deeply imbedded in the brain substance. There may occur a tubercular meningitis in cases of cerebral tubercle. This, however, is probably not due to the tumor directly but occurs simply from the general infection.

The pathological diagnosis of tubercular brain tumor is based upon those general symptoms characteristic of tubercular disease—the heredity, general characteristics of the patient, occurrence of tubercular lesion in other organs, and constitutional disturbance. A patient whose only tubercular lesion was a slowly growing brain tumor would show, in all probability, but very little fever or constitutional reaction. Even in pulmonary tuberculosis the febrile reaction of pure tubercular infection is but slight. It is only when there occurs the secondary infection, streptococcus or other, that the high temperatures of consumption are evident. Of course this applies only to cases in which the tubercular affection is, as is usual, progressing from a central focus. In *general* pulmonary tuberculosis the fever may be high before secondary infection occurs. In cerebral tubercular tumor, however, the little zone of miliary growths is so small, grows so slowly, that the patient is never intoxicated by the ptomains generated. He may have little or no fever or emaciation as far as the brain tumor is concerned. This fact needs to be borne in mind in making the diagnosis of tubercular tumor. Another fact requires attention. Tubercular tumors are very apt to be multiple. In more than one-half of the cases, for example, 100 out of 183, reported by Gowers, there was more than one tumor. There may be two, three—may be a dozen or more. Naturally the symptoms of brain tumor become complicated.

These are the cases which set neurologists by the ears in attempting localization. It may very well happen that one growth has pretty clear localizing symptoms. The surgeon operates only to find that the successful removal of one growth has left untouched one or more others. These facts are somewhat discouraging for the surgeon, but they need to be faced. Taking it all in all the field for cerebral surgery is narrowed down by many factors. It is only in rare instances that surgical measures bring success. I suspect that out of all the discussion set on foot by modern surgical skill and pathological research we are being driven to realize that preventive medicine has a far more glorious future than surgery or therapeutics. Careful prevention of postnasal catarrh and abscesses in the ear will save more children from purulent meningitis than all medical skill can cure. Common sense applied to the marriage of tubercular adults will do much to lessen tubercular meningitis and tumors. Even if this be regarded as utopian, careful hygiene of children of tubercular parents will do still more to prevent these troubles. Nevertheless there is a field for the surgeon in tubercular brain lesions, and while I have thus attempted to define its limitations I am glad to participate in this discussion, believing that out of such discussion will come that conservative surgery which is both safe and courageous.

TUBERCULAR PERITONITIS.*

By J. H. CARSTENS, M. D., DETROIT, MICHIGAN.

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You might ask, How do the bacilli get into the peritoneum and carry on their destructive work? How do they get into the brain or joints? The answer is that the bacilli get into the circulation, probably through the lungs; we might say, as a rule, they enter the circulation through the lungs, but may also enter by the mouth, and after passing the stomach, penetrate the wall of the intestines. The leucocytes and phagocytes do not destroy them, and they are deposited somewhere in the tissues and find fertile soil for multiplying. In the case of women, they often enter through the uterus and Fallopian tubes, but I have seen many cases, also, where they did not enter in that way—where the trouble was confined to the appendix, which seems to be a favorable location. In men, we most frequently find the appendix as the starting point of tubercular peritonitis. The various coats of the appendix are weaker than those of the intestines, and hence more liable to attacks by all kinds of organisms. The disease has been recognized for many years, long before abdominal surgery had cleared up the diagnosis of many abdominal diseases. It was then called tabes mesenterica, also consumption of the bowels.

Diagnosis.—The diagnosis of this condition is by no means easy. There is more or less pain in the abdomen and a gradual diminution in strength, and decline in the weight of the body. This gradually increases and should always be a very suspicious sign. The tuberculous cachexia is well marked in the latter stage of the disease, but in the early stages diagnosis is very difficult. In the light of the brilliant results of modern abdominal surgery, an exploratory operation is indicated when all the symptoms point to a diseased condition of the abdomen, which persists for months. When the disease is well advanced, the abdomen becomes distended and on careful examination hard growths or tumors can be easily felt. These are aggregations of thousands of tubercles joined together, forming distinct tumors. Around the Fallopian tubes and the uterus they are sometimes so thick that the uterus is absolutely fixed, like in any pelvic peritonitis due to pus tubes. Frequently they are deposited around the pelvis, and very often they are deposited in the omentum. Sometimes, if the trouble originates in the pelvic organs, an adhesion of the intestines takes place above, which walls in or limits it to the lower part of the abdomen, and effusion of serum takes place, which gradually increases, and is called encysted peritonitis. It used to be called dropsy and the patient was tapped, and sometimes recovered after tapping in such cases of dropsy. A disease for which this night be mistaken, and often is, is multiple sarcoma, and I do not know how ou can distinguish between them. Both diseases occur in all ages. I have een it in the very young and in those sixty and more years of age. As a rule, owever, taking together the history of the case and general appearance of the atient, we can make a provisional diagnosis of tubercular peritonitis, and the uestion then is one of prognosis, and naturally of treatment.

Prognosis.—The prognosis in these cases is good, provided you get the cases early enough, before secondary deposits have taken place in other parts of the body. Sometimes they are not secondary, but have taken place at the time of the original infection. By secondary deposits I mean, of course, those occurring in the lungs. If they are in the brain or joints, with the well-marked symptoms, the conditions are so serious that the deposit in the peritoneum becomes of secondary importance. In the case of tubercular peritonitis, if the most careful examination of the lungs shows them to be free of disease, the prognosis is good. If, however, the lungs are involved (even if only slightly), I have found that no treatment directed to the peritoneum, even if successful in that direction, will have any effect in staying the progress of the disease; the patient would ultimately die of pulmonary tuberculosis. I consider it very important to make a correct diagnosis beforehand, so that your prognosis may be reasonably certain, then the physician does not promise the patient's relatives more than he can fulfill. In the early stages, it may be possible that by curing the tubercular peritonitis the patient may make a complete recovery from the lung trouble by change of climate and appropriate treatment, but I, unfortunately have never seen such a case. In fact, all my cases are seen only after the disease is far advanced and when they are on the point of having diffused tuberculosis in different parts of the body.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Treatment.—The other papers read at this session undoubtedly thoroughly cover all points of hygienic, dietetic and medical treatment of tuberculosis in general, so that I will confine my remarks to the kind of treatment that is applicable to tubercular peritonitis, and that is operative. If all the symptoms point to that condition, or if you have made the diagnosis, an abdominal section will give you brilliant results. If I find that the disease is probably confined to the appendix, I make my incision on the right side, remove the appendix if necessary, and wash out the abdominal cavity. If, however, it is limited to the pelvic organs, I make the median incision and sometimes remove the tubes and ovaries, but as a general rule I do not, my reason being that the parts are very vascular and bleed easily, that the ligature will not hold, and that there are extensive adhesions, and hence great danger of *secondary hemorrhage.* Even the loss of blood during the operation may depress the patient fatally. If, by opening the abdomen and washing out the peritoneal cavity, the tubercular deposits will disappear, what is the use of taking away the tube? It is only when the tube is diseased and contains pus that it should be removed. For this reason I generally confine my efforts simply to washing out the abdominal cavity. I have been in the habit of using bichloride of mercury solution (1 to 10,000). I do not know whether it did any more good than anything else or not; in fact, some claim that flushing the abdomen with water is sufficient, but I think that bichloride of mercury will do no harm, and hence I use it. Do no harm, I said! I am not so sure of it. Sometimes in filling the abdominal cavity (and one has to fill it very full, so that it is distended, by holding shut the external incision, in order that the fluid may come in contact with every part of the peritoneal cavity) a few ounces or a half pint of this solution may remain somewhere, held back by the intestines, and will not pass out, the resul being that several grains of bichloride of mercury are left in the abdominal cavity, which will poison and kill the patient. In order to prevent this, I first use the bichloride of mercury solution, empty out the abdomen as far as I can and then fill it with saline solution, empty it out and repeat the procedure once or twice. By this means I think I am sure the bichloride must have been all removed, and what remains is a little saline solution, which, of course, is of no importance.

Technique.—About the technique of the operation I will simply say this: Be very careful in making the incision. Very often an intestine is adherent to the anterior abdominal wall, and if the intestine is opened it will never heal again; there will result a fecal fistula, which never closes. Although one or two cases have been reported in which they have closed, the rule is that they never do. Secondly, do not sew up the abdominal incision with animal ligature, as it is liable to infection by tubercle bacilli, and there will be nonunion; in fact, there may be extensive separation of the wound and protrusion of the intestines. Always sew it with silkworm-gut sutures. Along the track of these sutures will often appear little abscesses, which may take quite a long time to heal after the patient has recovered.

Aside from these few points the case may be managed just like any other abdominal section. There is a distinction made by some authors between the dry and wet variety, but I have really not been able to see much difference. It is the same old bacillus tuberculosis.

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TUBERCULOSIS OF THE GLANDULAR SYSTEM.*

BY F. B. TIBBALS, M. D., DETROIT, MICHIGAN.

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TUBERCULOSIS of the glandular or lymphatic system is a topic of everyday surgical importance. Tuberculosis of the mesenteric glands and the resultant forms of tubercular peritonitis might properly come under this head, but as that ground has been thoroughly covered by DOCTOR CARSTENS I will forego any allusion to it.

The lymphatics form the common-carrier system of the body, being constantly engaged in promoting nutrition and disseminating infection. Carcinoma is thus rapidly assisted in invading adjacent or remote areas of the body, and tubercular infection is carried by the same method, sometimes rapidly, sometimes slowly. The lymphatic glands are, strictly speaking, not glands at all, being nonsecreting, but rather nodes or ganglionic points in the vessels, readily awakened into inflammatory activity by bacteria or other irritant products. Bacteria easily gain access to the lymphatic system through the respiratory or alimentary tracts, or through the skin, broken or unbroken, and finding lodgment in the so-called gland, reproduce themselves and develop their toxic products, until swept thence by the never-ceasing current, to set up the same pathological changes in other tissues adjacent or remote.

The bacillus tuberculosis is very numerous and very lively, and modern medical thought attributes to him the causative role in that train of symptoms formerly classed under the general but indefinite term of scrofulous. Given a patient who, from inheritance or environment, manifests a constitutional predisposition to the strumous diathesis, and we may safely infer that the causative factor is tubercular in character. While it is true that the disease often remains latent for years or a lifetime, yet the diathesis should always awaken anxiety, and induce precautionary measures.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The exanthemata, traumatism, and various acute affections of a septic nature may cause lymphatic inflammation, self-limited in character. With the exception of syphilitic infection, or that secondary to malignant disease, all *chronic* lymphatic inflammation is tubercular in origin. The diagnosis is therefore easy, by a process of exclusion.

Treatment should be conducted along two lines, tonic and surgical. Tonics are indicated to assist nature in her battle against systemic invasion, by placing the patient in the best possible condition of resistance. Cod-liver oil, arsenic, the iodides in alterative doses, iron and other like remedies are always useful. Surgical interference is indicated whenever the diagnosis is clear and the affected region accessible, that is, in the vast majority of cases. The glands usually affected are those of the neck, axilla and groin, and hence are practically always accessible for excision, if taken in the early stages, before the deeper chains become infected. There are commonly but one or two infected points at first, but from these depots, bacteria or their toxins may at any moment pass to other points, and other glands become involved or systemic infection develop.

Regarding the method of operation but little need be said, as free incision, thorough currettement, and good drainage will suffice in most cases, frequently without an anesthetic. When a whole chain of glands has been allowed to become involved, a more radical procedure is necessary, but no one with a working knowledge of anatomy should hesitate to undertake their removal, and those devoid of such knowledge should not undertake surgery at all.

The importance of early excision in these cases cannot be too strongly impressed, as I believe the first sign of glandular involvement to be the primary localization of a latent tubercular diathesis. It has been my misfortune to see a number of hopeless cases of general tuberculosis in which the first danger symptoms were localized glandular infection, and which I confidently believe might have been saved by early surgical interference.

In recapitulation, I want to impress two ideas: First, that all cases of so-called struma or scrofula are latently tubercular. Second, that when in such cases, localized glandular infection occurs, early excision is the best means of preventing systemic infection.

GASTRECTOMY.*

BY H. O. WALKER, M. D., DETROIT, MICHIGAN.

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THE recent report of a complete removal of the stomach with recovery of the patient by DOCTOR CARL SCHLATTER is of no ordinary interest from the fact of its unique character and the possibility of its adoption in opportune cases. Surgeons throughout the country will undoubtedly give the operation a rigid investigation and in due course of time pass upon its validity or relegate it as a surgical freak.

The term gastrectomy has been applied to a partial excision of the stomach mostly at its pyloric end (pylorectomy). Removal of a greater or less portion of the stomach has been reported by several operators with isolated successes. A frightful mortality has attended efforts in this direction. Discrepancies are apparent in reports regarding the same. One reporter says CZERNY's dog lived eight months, another five years. Even this dog showed at the autopsy that a part of the cardiac portion was not removed, which would not, however, interfere with the physiological principles involved. CONNOR, of Cincinnati, in 1883, made a complete gastrectomy for gastric carcinoma, but the patient died before the completion of the operation.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

It is quite evident that the presence of certain conditions would materially influence the result of this operation. The abolition of the physiological function of the organ on account of the general distribution of the growth would have already prepared the patient to depend upon intestinal digestion. The altered position of the esophagus caused by the constant dragging by the tumor would also aid in the performance of the operation. The history given would indicate that SCHLATTER's case was of this nature. He is, however, to be congratulated upon his remarkable achievement.

A study of this operation necessitates a familiarity with the anatomy of the stomach, which is in brief as follows:

SURGICAL ANATOMY OF THE STOMACH.

The stomach is situated in the left hypochondriac and epigastric regions directly beneath the diaphragm and left lobe of the liver. It is about twelve inches long, four inches wide and weighs about four and one-half ounces. The only fixed point of this viscus is the cardiac orifice at the esophageal extremity. This corresponds on the surface of the body to a point on the left seventh costal cartilage one and one-half inches from the sternum. The fundus, however, extends variably two or three inches farther to the left. The pyloric orifice, the average diameter of which is about sixteen millimeters, possesses more latitude as it varies in position according to the gastric distention. When the organ is empty this valve may be found about two inches below the junction of the right seventh costal cartilage with the sternum. These two openings are connected by an upper and a lower border which together encircle the whole organ. The upper and shorter one is concave. It is usually about three and one-half inches long. The lower border is convex. Owing partly to natural development and partly to use the great cul-de-sac or fundus is comparatively much more sacculated in the adults than in newly born children. On this account the length and position of the lower border varies considerably. In the non-distended stomach this border nearly corresponds to an horizontal line drawn between the extreme tips of the tenth costal cartilages. The distended organ may reach as low as Poupart's ligament.

The stomach is held in place by the gastro-phrenic ligament, connecting the diaphragm and the esophageal extremity and suspended from the transverse fissure of the liver by the lesser or gastro-hepatic omentum, which is attached to its upper curvature. The two ligamentous layers of peritoneum, of which this omentum is composed, consist of a superior tendinous portion, a middle flaccid part in front of the Spigelian lobe of the liver, and of a more massive inferior portion, on the right margin of which are the portal vein, hepatic artery and duct. The vein passes behind the other two vessels. On the left the stomach is connected with the spleen by the gastro-spleenic omentum passing from the fundus to the concave surface of the spleen. This structure contains the splenic vessels and the vasa brevia. Continuing from the lower border of the gastro-splenic omentum are the layers of the great or gastro-colic omentum, portions of which surround the whole stomach and suspend from it the transverse colon. Between these layers along the inferior border of the organ pass the right and left gastro-epiploica vessels.

Relative to the adjacent structures the stomach is located as follows: In front are the liver, diaphragm and anterior abdominal wall. Upon the latter the distended stomach presents a triangular shaped surface bounded by the anterior margin of the liver, the margin of the left costal cartilages, and a horizontal line connecting the tips of the tenth costal cartilages. Behind are the pancreas, great vessels, crura of diaphragm and solar plexus, from all of which it is separated by the anterior layer of the transverse mesocolon; the spleen and gastro-splenic omentum, splenic artery, left kidney and suprarenal body. Above are the liver, gastro-hepatic omentum and esophagus. Below are the gastro-colic omentum, transverse colon and mesocolon.

The arterial supply of the stomach is derived from the celiac axis through branches distributed as follows: The gastric reaches the stomach at its junction with the esophagus. It turns downward, gives off branches over the fundus to anastomose with splenic branches, and, following the lesser curvature, finally anastomoses with the pyloric. The latter, a branch given off from the hepatic artery opposite the pylorus, passes to the left along the lesser curvature and joins a terminal branch of the gastric. The greater curvature is girded by two large vessels which anastomose with each other under the folds of the great omentum. From the pylorus the gastro-epiploica dextra, a branch from the hepatic, passes to the left as far as the middle of the lower border of the stomach, giving off numerous branches in its course. Beginning at the fundus on the left, the gastro-epiploica sinistra, a branch of the splenic, passes along the greater curvature to inosculate with the gastro-epiploica dextra. In addition to these the great omentum receives branches from the superior mesenteric.

Accompanying these arteries are veins of the same names, which terminate in the superior mesenteric and portal veins behind the pancreas.

Along the two curvatures are located lymphatic glands which receive both the superficial and deep lymphatics.

The right and left pneumogastric nerves pass downward through the diaphragm along the posterior and anterior surfaces respectively of the esophagus, and are lost in the posterior and anterior surfaces of the stomach. From the solar plexus, located about the celiac axis, are given off a liberal number of filaments which accompany the several arterial trunks before mentioned.

In order to determine the extent of the operation and, if possible, the more suitable methods for its performance, trials were made upon twelve dogs. The results are embodied in the description of the following experiments:

EXPERIMENTS.

Experiment Number I.—December 26, 1897: A long haired bitch, weight forty pounds, on which a gastro-intestinal anastomosis had been done six weeks previously. The duodenum was severed and turned in by a purse-string suture. The esophagus was pulled down and sutured to that portion of the intestine to which the stomach had been previously attached. The subject lived sixteen hours. The postmortem showed that the transverse colon had been previously attached to the stomach and this it was that was sutured to the esophagus. A pint of dark colored sero-bloody fluid was found in the abdominal cavity. No particular point where hemorrhage had occurred was discoverable.

Experiment Number II.—March 27, 1897: A mastiff, weight seventy pounds. The duodenum and esophagus were freed from their gastric attachments and united by a Murphy button. The subject lived eighteen hours. The postmortem showed the anastomosis to have been perfectly done. The two portions of the button were in correct apposition. A quart of dark bloody fluid lay in the abdominal cavity.

Experiment Number III.—January 6, 1898: A Dane dog, male, weight forty pounds. As in the preceding experiment the duodenum and esophagus were joined by a Murphy button. Particular pains were taken to stop all hemorrhage before closing the outer wound. The subject died at the expiration of twelve hours. The postmortem showed the technique of the anastomosis to have been perfect. There was no injection of the peritoneal tissues. A pint of bloody fluid was found in the abdominal cavity.

Experiment Number IV.—January 11, 1898: A mastiff, weight one hundred and twenty pounds. The duodenum was severed from the pylorus, inverted and closed by a purse-string suture. The esophagus was pulled down and sutured elbow-fashion to the lower end of the duodenum about a vertical incision, having the diameter of the esophagus, on the surface opposite the mesenteric attachment. The subject expired in three hours. The postmortem disclosed nearly a quart of bloody fluid in the abdominal cavity. The bleeding points could not be ascertained.

Experiment Number V.—January 15, 1898: A Dane dog, weight eighty pounds. As in the case last preceding, the esophagus was sutured to the lower portion of the duodenum. At the close of the operation no hemorrhage was discoverable. In the preceding cases the subjects were tied only by the collar. In this case the subject was kept immovable upon a rack for one and one-half days. At the end of twenty-four hours a rectal enema of milk, four ounces was given. Twelve hours later six ounces of milk were administered. At the end of the first twenty-four hours temperature was 103.5° Fahrenheit, pulse 94. Twelve hours later temperature was 103° Fahrenheit, pulse 120. At this time subject had slight stool, containing small blood clot and retched several times. Expired at end of forty-eight hours. The postmortem showed union to have been solid. Within the duodenum and adjacent intestine were found little more than traces of blood clots. About two ounces of dark fluid were found in the abdominal cavity.

Experiment Number VI.—January 17, 1898: A mastiff, weight eighty pounds. Operation was made in the same manner as preceding. At close the abdominal cavity appeared perfectly dry and no bleeding points were discoverable. The subject lived twenty-four hours. The postmortem showed some ecchymosis within the abdominal wall. A portion of the great omentum attached to the wound was also somewhat dark colored. Small clots were found in various parts of the omenta and mesentery. A pint of blood lay in the bottom of the cavity.

Experiment Number VII.—January 18, 1898: A mongrel bitch, weight thirty pounds. The same procedures as last described were repeated. The subject expired three and one-half hours later, having apparently suffered from shock. Her pulse was found with difficulty after the operation. The postmortem revealed the fact that the subject had been pregnant, and had passed more than half of her term. About four ounces of fluid lay in the cavity.

Experiment Number VIII.—January 20, 1898: A mongrel, weight forty pounds. The same operation was being repeated when the subject expired under anesthesia from ether. No autopsy.

Experiment Number IX.—January 21, 1898, in the presence of Doctors Griswold and Johnston, of Grand Rapids, Alvord, of Battle Creek, Davis, of Saginaw, and Metcalf, of Detroit: A shepherd dog, weight fifty pounds. The preceding operation as last described was again repeated, having first attempted to unite the duodenal and esophageal extremities with the Murphy button. The difficulty experienced in this case in bringing the ends into convenient apposition caused the change of method. The abdominal cavity was swabbed dry and the wound closed as usual. The animal expired after twelve hours. The autopsy showed nothing different from preceding cases. A pint of bloody fluid was found in the peritoneal cavity. No particular points where hemorrhage had occurred could be found.

Experiment Number X.—January 24, 1898: A mongrel, weight thirty pounds. The junction of the esophagus and lower duodenum was performed in the usual manner. The subject expired in twelve hours. The autopsy revealed blood as usual in the abdominal cavity.

Experiment Number XI.—January 28, 1898: A male dog, weight sixty-five pounds. The usual method of anastomosis between the extremity of the esophagus and the lower duodenum transversely was done. At close of operation no apparent oozing; abdominal cavity dry. Dog lived sixteen hours. Postmortem revealed the usual quantity of blood in the cavity.

Experiment Number XII.—January 29, 1898, in the presence of Doctor Straw: The procedure described above was repeated. This was the shortest operation, having been completed within seventy minutes. Twenty-two hours after the operation the temperature was 104.4° Fahrenheit; pulse 120; respiration 32. The dog appeared in splendid condition, but thirty-five hours after the operation it died. Postmortem revealed more than a pint of bloody fluid. The external wound was septic, although not sufficient to account for the fatal result.

Technique.—The subject, having been muzzled and securely fastened on his back in the operating trough, was anesthetized with ether. The entire abdomen was shaved, made thoroughly aseptic, and covered with aseptic towels. A median incision, four or five inches in length, from sternum to umbilicus or farther, as the case required, exposed the stomach and afforded convenient access to the parts. The stomach was pulled up above the wound; the lower portion of the gastro-hepatic ligament, including the pyloric artery and vein, and the right portion of the great omentum with the gastro-epiploica dextra ligated; the pylorus caught at the valve between long jawed forceps, and the duodenum severed from it immediately below, using great care to avoid injuring the pancreas and attached structures. The duodenal orifice was then closed by either a purse-string suture or a double row of continuous sutures, the second being of the Lembert variety. The omental attachments along both borders and the gastro-splenic omentum were then separately ligated in sections, the gastro-epiploica sinistra tied, and the corresponding attachments to the stomach severed. The esophageal extremity was then treated in a manner similar to the pyloric, special attention being given to the ligation of the gastric artery and its branches anastomosing with the splenic branches. Lest the esophagus, when severed from the stomach, retract beyond convenient reach, it was encircled below the point of section with a gauze ligature drawn tightly and thus held in place for easy anastomosis. In two instances junction was made between the esophagus and the pyloric end of the duodenum by means of a Murphy button. In the other cases the esophagus was implanted at right angles into the lower end of the duodenum, avoiding the pancreas, on the surface opposite the mesentery. For this purpose the portion of the duodenum referred to was incised vertically a distance equal to one-half of the circumference of the esophageal orifice; esophagus and intestine were then approximated and held in position by four equidistant catgut sutures used as guys, after which two rows of sutures, the second of the Lembert variety, were passed entirely around the joined edges. After making a dry toilet of the abdominal cavity the parietal peritoneum was closed with catgut sutures and the edges of the external opening coapted by interrupted and continuous sutures of steel wire. No dressings were applied.

In all of these experiments every practical precaution was observed as to asepsis, unnecessary manipulation avoided, and extraordinary pains taken to arrest hemorrhage. Ligation in nearly every case preceded division of the vessels. In some instances freedom was allowed after operation, in others restraint was imposed. The conditions in the several cases were varied in as many ways as suggested themselves in order to profit by every advantageous measure.

From the outcome of all this work the following conclusions seem justifiable: Hemorrhage from peritoneal structures is more easily controlled in the human subject than in dogs. The operation is too dangerous for general application. Cases will be rare in which it may be adopted. SCHLATTER's case appears to have been peculiarly adaptable. Success in the removal of cancerous growths of the stomach will depend upon early diagnosis.

I am under obligation to DOCTOR FRANK B. WALKER for his valuable assistance in making the above experiments.

HEADACHE.*

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THERE are in medicine many subjects too broad to be properly handled by one man and within the narrow limits of one short paper. Headache, most assuredly, is one of these. With your permission, then, I will refer to this many-sided question in a general way only, leaving it to the able ones who are to follow me in the discussion to go into the details from the standpoints of the general practitioner and the various specialists.

The head, as it is affected in the various forms of headache, migraine or neuralgia, may conveniently be divided into an intra- and an extracranial area: by the former is meant all the space and its contained within the bones of the skull; by the latter the bones of the skull themselves, the periosteum, the fibrous tissue, nerves, vessels and muscles which overlie and are attached to them. There is, I believe, in the intracranial cavity a certain state of the blood-vessels and the intracranial pressure which may be considered normal and the proper starting point from which departures of a pathologic nature must have their beginning. This is not, of course, an absolutely fixed quantity and may vary within certain physiologic limits without the occurrence of symptoms indicating departure from the normal, but certainly as soon as any marked degree of departure from the normal condition of the circulation or intracranial pressure is made symptoms begin to manifest themselves and among these pain in the head of some variety is among the first and most common.

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* Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

One cannot of course assign to headache *per se* any special or definite pathology because patients do not die of headache, but judging from the conditions of the circulation in those parts of the head accessible to examination, namely, the skin, the ear and the fundus of the eye, one is led to believe that in some cases there is an anemia and in others a congestion of the intracranial contents, a departure in either direction from the normal giving rise to the symptom headache. The variations in the intracranial pressure go hand in hand with the vascular variations, and are furthermore influenced by gross intracranial lesions such as meningitis, cerebral hemorrhage, tubercular, malignant and gummatous infiltrations and growths.

The wide distribution of the recurrant filaments of the great sensory nerve of the head—the trigeminus—within the cranial cavity must not be lost sight of in our consideration of intracranial headaches. A lesion in any distant organ originating a neuralgia of the trigeminus would of course be reflected over these intracranial branches as well as over the extracranial ones.

The extracranial division of the anatomic field covered or occupied by headache presents problems of a somewhat different nature. Here is found fibrous, muscular, bony and nervous tissue, but not enclosed in a dense unyielding envelope as is the case with the intracranial cavity. So that variations in the circulation and pressure have not in the former the same significance as in the latter, but the various agencies which originate reflex pain, such as irritations in more or less distant organs, such as the eye, ear, nose, teeth, stomach, bowels, uterus and ovaries, find expression by being reflected over the sensory nerves by which these parts are so abundantly supplied. Then, again, when the large amount of fibrous and muscular tissue around about and attached to the cranium is taken into consideration we immediately become impressed by the fact that the various autointoxications and autoinfections occurring under the class of maladies of the rheumatic and gouty types may be manifested by painful inflammations and thickenings of these tissues.

With the anatomic field clearly in view it immediately becomes manifest that headaches may be intra- or extracranial in their make-up, and furthermore that the boundaries of these two headaches run the one into the other along the line of that variety of headache which is of reflex origin and affects the trigeminus nerve. This intermingling occurs in those cases in which the pain is reflected over the intracranial distribution of the trigeminus nerve, and also in those cases mentioned by **Charcot** particularly, where central lesions give rise to pain reflected over the extracranial branches of the fifth nerve.

There have been many classifications made of headache by various writers and from various standpoints, but the one made by **Dercum**, of Philadelphia, writing in *The University Magazine*, seems to be the most complete and practical. It is as follows:

(1) Organic headache.
(2) Nonorganic headache.
  (a) Migraine.
  (b) Headache from functional disturbance of nutrition, such as anemia and hyperemia.
  (c) Headache from disturbances of nutrition of a diathetic nature, such as lithemia, rheumatism, diabetes.
  (d) Toxic headache—malaria, lead, tea and coffee.
  (e) Reflex—eye, nose, heart, stomach, bowels, et cetera.
  (f) Hysterical headache.
  (g) Neurasthenic headache.
  (h) Febrile headache.

Clinically the point which seems of most importance to primarily determine is whether or not the headache with which we are dealing is organic or nonorganic, meaning by organic headaches those varieties arising from organic lesions within the cranial cavity, such as meningitis, cerebral abscess or the occurrence of intracranial growths. The constancy of the headache, the accompanying motor or sensory symptoms, the temperature, the pulse, the localized pain and tenderness on percussion, the ocular symptoms both of a motor and sensory nature, and the presence of optic neuritis are points to be constantly kept in mind.

Having become convinced that the headache is not of an organic nature the next most important thing to determine is whether or not we are dealing with a headache having its etiologic factor in some grave constitutional defect, such as renal incompetency or some break in the normal digestive function of the alimentary tube, giving rise to the elaboration and absorption of poisons producing an autointoxication which gives rise to the headache. Hysterical or neurasthenic headaches are probably always associated with a lesion either functional or organic in some organ, proper isolation of which will bring with it the efficient remedy for the symptom. In the case of the febrile headache the symptom is so sunk in the progress of the febrile movement as to demand only palliative treatment and cursorary consideration.

A question which is often asked ophthalmologists, and which has a practical bearing, is whether or not one can tell from the locality and character of the headache if it be of ocular origin. Some have gone so far in the nicety of their selection that they have assigned certain cutaneous areas which correspond to pathologic lesions in certain organs.

So, to recapitulate, one might say that in a general way the most important divisions of headache are organic and nonorganic, and that in the latter the most important question to determine is whether they are of the reflex variety or whether they have an etiologic factor in a disturbance of nutrition.

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REMARKS ON LA GRIPPE.*

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In 1892, at the Hygienic Institute at Berlin, **Pfeiffer** succeeded in isolating the microorganism which is the cause of this disease. It is a very short nonmotile rod. It grows best in a culture medium which contains hemoglobin. It occurs in great numbers in the secretions of the nose and mouth of those having la grippe, and can be found in every case of the disease. The disease cannot be transmitted to the lower animals, either by contagion or by inoculation.

La grippe generally assumes one of the three following forms: respiratory, gastro-intestinal, or nervous. Sometimes it appears as a combination of two or all these forms. Each form has a long list of characteristic symptoms. Here is a list, by a French writer, of the symptoms that may accompany an attack of la grippe when the nervous system is affected: meningeal hyperemia, purulent meningitis, encephalitis, cerebral hemorrhage, true epilepsy, Jacksonian epilepsy, aphasia, acute ascending myelitis, various paralyses, neuralgias and neuritis; also disorders of organs of special sense, as eyes, nose, et cetera; hysteria, neurasthenia, chorea, general pruritis, paresis, various psychic troubles and trembling of voluntary muscles of the whole body. How many of these complications a patient may have and yet recover is probably not yet known. The other forms also are equally well supplied with symptoms of various kinds.

Besides the symptoms of the disease itself there is a list of sequelæ that is startling enough. A writer in the *London Lancet*, in 1896, gives a list of these which was made up of no less than sixty different diseases.

The disease in a majority of cases is a mild one. In a minority, however, it is not, and a minority, where so many are affected, may mean a large number. Last February, in New York City, three hundred deaths were attributed to influenza, and this number, great as it seems, was two hundred less than the rate for the same month in 1896. During one week in the same city, at another time, diphtheria was the only disease able to claim a larger death list than la grippe. Probably the greater number of these deaths occur among the feeble and the aged, yet complications and sequelæ among the strong and robust are very important factors. The character of the disease both as to form and severity varies greatly with different years and also with different parts of the same year.

At the present time the disease is among us and may be said in a general way to be characterized by the mildness of its symptoms. Of course any day may see this condition changed. A typical case of today is apt to have some such history as this: At the outset there occurs a feeling of malaise with some aching of the bones or even general lameness. There is slight inflammation of the mucous membrane of the nose, throat and larynx, and cough from laryngea irritation. Temperature is more often below than above normal. Pulse is weak and often slow. The night following the attack is almost certain to be a restles and sleepless one. Oftentimes this is the first thing to call the attention of the patient to his condition. It seems to the writer that the importance of this symptom has not been properly appreciated by the profession, or by those, at least, who have written on the subject. But the one prominent and constant characteristic of the disease at present is the persistency with which the symptoms cling to the patient. The cough and lowered vitality remain unchanged for weeks unless the strict observance of a proper treatment is maintained. But here comes the rub. The patient feels that he is not sick enough to be compelled to stay in the house—let alone to stay in bed. The doctor knows the patient is too sick to be out of the house—if not out of bed. He also knows that if any serious disease, such as pneumonia, is contracted—and this condition favors just such a result—that the effect is quite certain to be disastrous.

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* Read before the Detroit Medical and Library Association.

If la grippe could be personified it might well be spoken of as a good but generous fighter. So long as its victim shows no sign of yielding just so long will the disease carry on the contest. Let the patient once surrender, however, and act as one should under such circumstances, and our fighting friend will soon withdraw to seek a more belligerent opponent.

Treatment, then, may be described as confinement to the house if not to the bed and in an even temperature. Even temperature here should be carried far enough to exclude even a single draft from an open door or window. The air breathed should be free from any substance that may further irritate the larynx. Tobacco smoke is a common and flagrant offender in this respect. As adjuvants to this line of treatment one might mention plain food, hot drinks at bedtime, small doses of belladonna, and large ones of strychnine. The latter should be kept up for some time after the patient is well enough to return to his ordinary pursuits. A combination of chloral hydrate and potassium bromide in five grain doses will do much to relieve cough and induce sleep. A four per cent. solution of antipyrine inhaled as a fine spray for a few seconds every three or four hours is very efficacious in lessening the congestion of the mucous membrane of the larynx.

The treatment here described may be divided into two classes—one hygienic and the other therapeutic. If one of us should be treating himself or somebody else for la grippe, the writer of this paper would advise him to use both classes; but if for any reason he is restricted to one, he would advise him to give precedence to the hygienic.

SOME CLINICAL METHODS OF EXAMINING THE BLOOD.*

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HEMATOLOGY, or the study of the blood, a comparatively new branch of scientific medicine, is already too exhaustive in scope to be dealt with fully n the short time allotted this paper. It is therefore my purpose this evening o consider only a few of the more important methods of examining the blood, which are today of value to the clinician.

It is very valuable in many cases to know if the corpuscles are diminished n number. For this purpose the Thoma-Zeiss corpuscle counter approaches nearer exactness than any other method yet devised. The principle of this instrument is an actual count with the microscope of the corpuscles in a known dilution of blood.

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* Read before the DETROIT ACADEMY OF MEDICINE.

Technique.—We first prick the lobe of an ear, or a finger and as soon as the blood flows freely we insert the end of the tube in the drop and then gently but steadily suck upon the mouthpiece at the end of the rubber tubing, care being taken not to admit any air. We fill the tube completely up to the mark 0.5; if we go a little beyond, some may be drawn back by means of blotting paper, but this is not recommended when we have gone over one-thirty-second of an inch beyond the mark. We now quickly wipe away any blood on the outside of the tube, place the end in a diluting solution,[1] immediately begin to suck some of this up into the bulb, rotating the tube at the same time so as to mix the blood and solution and fill up to mark above bulb. We now blow out the diluting solution in the tube which is not mixed with blood and allow a small drop from the bulb to flow onto the island in the slide. We next place a cover-glass over the drop, but if the drop be too large some will run over into the moat, which necessitates our cleansing the slide and trying another drop; practice teaches us about the size of drop to cover the island, or at least nine-tenths of it. If we have filled the tube with blood up to 0.5 mark and with solution to mark beyond bulb, we have a dilution of 1:200. We now place slide under microscope and focus upon the fine rulings on the island. We find them forming small squares, sixteen such forming a large square enclosed by three lines on each side. We now proceed to count the corpuscles by counting those totally within a small square and those touching or overlapping two sides of the square, as the right and lower sides, and proceed with other squares in same way. We thus avoid counting a corpuscle twice, and failing to count one. We should count about one hundred squares, then clean the slide and take another drop and count one hundred more, in all about two hundred squares. As each square is 1–400 millimeter square and the distance from the island to the cover-glass .1 millimeter, we have in each square the number in 1–4000 cubic millimeter. So if we take the total number of corpuscles counted, divide by the number of squares, we have the average number in one square, and multiply by 4000 we have the number in one cubic millimeter of diluted blood; again multiply by the amount of dilution and we have the number in one cubic millimeter of blood. The white blood corpuscle counter is constructed upon the same principle, the dilution[2] generally being 1:10, so it needs no further explanation. The technique seems, at first sight, simple, but its practical application is fraught with many petty annoyances. We may admit air into the tube; we may, especially when the coagulability of the blood is rapid as in chlorosis owing to slowness in manipulation, get coagulated masses in the tube; we may draw the blood too far beyond the stopping mark; in fact we may encounter many failures until practice in the use of the instrument lessens the chances of a mistake. Each one of these errors means a thorough cleaning of the instrument—a tedious procedure. We first wash out with water, then with absolute alcohol, then with ether and then dry, which is accomplished easiest with air blown through the tube from an

[1] DILUTING SOLUTION FOR RED BLOOD CORPUSCLES.

Hydrargyri bichlor., ...	0.5
Sod. sulph., ...	5.
Sod. chlor., ...	2.
Aquæ destillat., ...	200

Misce.

[2] A DILUTING SOLUTION WHICH STAINS THE LEUCOCYTES IS TOISSON'S.

(a)	Methyl violet, 5 B., ...	0.025
	Neutral glycerin, ...	30
	Distilled water, ...	80
(b)	Sod. chlor., ...	1.
	Sod. sulph., ...	8.
	Distilled water, ...	80

Mix (a) and (b) and filter.

atomizer bulb. Care must be taken to have the tube thoroughly clean, free from dust and perfectly dry before using it. A modification of the red blood corpuscle counter by PROFESSOR MIESCHER, of Basel, is used by me in preference to the old tube because it certainly lessens the chances of error. You will notice we have three stopping places—1–200, 1–150 and 1–100. If we go beyond the first we may go on and try for a landing at the second, that is, 1–150. There are also two little lines above and below each station, which helps us more easily to read our level as capillary attraction does not give us a sharp cross-section.

We next determine if the amount of hemoglobin is diminished, for this purpose we have many instruments, one of the best being Fleischel's hemometer. It is constructed so that a known dilution of normal blood will exactly correspond in color with one hundred per cent. upon a sliding scale of ruby glass, which passes between the diluted blood and the light. A diminution in amount of hemoglobin gives a lighter color to the solution which will be found to correspond with a lower percentage upon the scale.

Technique.—Each of the small capillary tubes, which accompany the instrument, has a capacity of about six and one-half cubic millimeters. By placing the end of one of these tubes horizontally in a drop of blood the tube is filled by capillary attraction. We now partially fill one of the chambers with distilled water and dissolve out the blood in tube. Next fill both chambers with distilled water and in a darkened room with candle light we reflect light from the white reflector through the chambers. By means of the thumbscrew we slide the ruby glass under the chamber containing water until the two chambers both have the same shade of color. Now read the figures on the scale. These figures do not represent the percentage of hemoglobin in the blood but merely percentage in accordance with this instrument which is constructed so that with five million red blood corpuscles the scale will show one hundred per cent., and naturally with a less number the scale would show diminution of hemoglobin; therefore when we find diminution of hemoglobin we must know the number of red blood corpuscles so as to ascertain if this diminution is due to a diminution of corpuscles, or a diminution of hemoglobin in the individual corpuscles or due to both factors. We express this much better by what is termed color-index, or the amount of hemoglobin per red blood corpuscle.

EXAMPLES:

(1) Number of red blood corpuscles three million. Fleischel shows thirty per cent. What is the color-index?

If 5,000,000 red blood corpuscles should show Fleischel 100%
Then 3,000,000 red blood corpuscles should show Fleischel 60%
And 60% Flieschel would have color-index 1
Therefore 30% Fleischel would have color-index .5—a case of chlorosis.

(2) Number of red blood corpuscles 1,200,000. Fleischel 48%. Color-index?

If 5,000,000 red blood corpuscles should show Fleischel 100%
Then 1,200,000 red blood corpuscles should show Fleischel 24%
And 24% Flieschel would have color-index 1
Therefore 48% Fleischel would have color-index 2—a case of pernicious anemia.

Why color-index is 2 will be explained later.

We often read and hear of percentage of hemoglobin in a case without reference to the number of corpuscles. You can readily see that the former, without reference to the latter, gives no information regarding the reduction of hemoglobin.

We have another method of estimating the amount of hemoglobin which, owing to its simplicity, is worthy of mention. It is Hammerschlag's indirect method of taking the specific gravity of the blood. With a mechanical mixture of two liquids such that a drop of blood in it neither sinks nor swins, we have a mixture of about the same specific gravity as of the blood. So taking the specific gravity of the mixture we have for clinical purposes the specific gravity of the blood.

Technique.—It is very simple. We prick the finger and allow a large drop of blood to drop into a mixture of chloroform three parts, benzol one part (specific gravity 1.055=that of normal blood). If the drop sinks add chloroform, if it swins add benzol, and so by adding one or the other, we bring the drop in the middle where it remains. Now, take the specific gravity of this mixture which is approximately the specific gravity of the blood. The solids of the blood form twenty-five per cent. of the same, the half of which is hemoglobin, so a diminution in the solids means also a proportionate diminution in the hemoglobin. Upon this hypothesis Hammerschlag has worked out a table[1] which represents the amount of hemoglobin according to the specific gravity. I consider this a very convenient method to use at the home of the patient or when the hemometer cannot be used. It is also fairly reliable for clinical purposes.

The hematocrit precipitates the corpuscles in a graduated tube by means of centrifugalization, the bulk of the precipitate indicating the number of corpuscles. With normal blood the corpuscles pack in the tube, relatively to the number, but even then we do not know the elasticity or compressibility of the normal corpuscle, so with different velocities and an unconstant number of revolutions we get different results. Again, in leukemia and anemias corpuscles of different sizes and shapes would pack down differently than the healthy ones. This instrument is intended to take the place of the Thoma-Zeiss counter, which we admit is also not scientifically accurate, but the hematocrit does not seem to be as accurate and its liability to error is greater. I believe that the time saved by its use and its reputed accuracy are not great enough to cause us to discard the actual counting with the Thoma-Zeiss, or better with Miescher's modification above referred to.

We now turn to the morphology of the corpuscle, which can be studied in the fresh specimen but many times to better advantage in the dried films. In the preparation of blood films, as well as in all other hematological researches, everything depends upon—

Technique.—To begin with, cover-glasses must be clean and free from dust and oily material. We may do this by soaking in alcohol and ether, carefully wiping with a clean old linen handkerchief, and then putting them in a watch crystal which is placed in an oven and heated to 150° centigrade. Care should be taken not to handle with the fingers for the moisture will interfere with the even spreading of the blood. I take the watch crystal from the oven and place another over it and carry the cover-glasses between the two watch crystals to the patient, then prick the ear and taking one cover-glass in the forceps I allow a small drop to be touched at its apex by the center of the cover-glass. I then

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[1] HAMMERSCHLAG'S TABLE.

SPECIFIC GRAVITY.	HEMOGLOBIN.
1034–1037	20–30 per cent.
1037–1041	30–40 per cent.
1041–1045	40–50 per cent.
1045–1049	50–60 per cent.
1049–1052	60–70 per cent.
1052–1056	70–80 per cent.
1056–1059	80–90 per cent.
1059–1062	90–100 per cent.

place another cover-glass over it so about one-sixteenth overlaps, then without pressure draw the two steadily, evenly and quickly apart. If our cover-glasses are clean and proper care has been used in drawing them apart, the blood will be evenly spread. If we have been careless the film will have little holes or rings in it and the whole will present an uneven appearance. Practice alone enables one to make well-spread films. We next fix the films. Heat is recommended by Ehrlich, and is best if we use his triple stain. We place the films in an oven and run the temperature up to 105° centigrade, withdraw the burner and allow it to run up to 115° centigrade, then open the door and let it cool down. We may also fix in a mixture of alcohol and ether equal parts, from fifteen minutes to an hour or even longer. If dealing with a marked anemia better results are obtained by alcohol and ether. We have many methods of staining, the important being eosin-hematoxlyn, eosin-methylen blue and Ehrlich's triple stain. The stain is simply spread on the film and washed off in one to five minutes. It is well always to stain the same length of time with the same stain. After washing we dry between filter papers and mount in Canada balsam.

We now take up the appearance of these stained films.

Plate I[1] represents normal blood. Notice the red blood corpuscles are all about the same shape, size and color. Each has a light spot in the center which is called the delle. This is due to the corpuscle being biscuit-shaped and not so thick in the center.

Plate II is primary pernicious anemia. Notice the diminution in number and amount of hemoglobin in some corpuscles, while others appear entirely filled with hemoglobin. There is a marked difference in size and shape. Some are several times the size of a normal red blood corpuscle as seen in Plate I, another much smaller and others have various shapes. The number of corpuscles as you see is diminished but many are well filled with hemoglobin, especially the larger ones; consequently the amount of hemoglobin estimated with a hemometer would be greater than with the same number of normal corpuscles, and we would have a high color index which we referred to under the discussion of color-index.

We can now take up the nomenclature of these forms. The normal red blood corpuscles are called erythrocytes, the larger ones megalocytes, the various shaped ones poikilocytes, and the small ones microcytes. Ehrlich calls both poikilocytes and microcytes schistocytes, for he says they are parts of an erythrocyte. They generally have a delle which he accounts for by saying that the contents being hemoglobin its form is due to the discoplasm and a schistocyte being a fragment of an erythrocyte it is able, with its discoplasm, to form a delle. In man erythrocytes have no nuclei but we find them nucleated in the embryo. So we have erythroblasts, that is, nucleated red blood corpuscles. And following above nomenclature, normoblasts, megaloblasts, microblasts and poikiloblasts. These are all pathological conditions of the cell and we find, especially in leukemia, the nucleus undergoing division either by constrictions or in the various stages of karyokinesis.

The leucocytes have had more study devoted to them than any other constituent of the blood. Many attempts have been made to obtain a satisfactory classification. We will briefly review these classifications so we may better understand the terms in use and their significance. The classification generally is a mixture of three methods, namely, according to supposed origin, according to form of nucleus, and according to the micro-chemic reactions of the granular matter in the cells. In classifying the leucocytes according to their origin (lympocytes, splenocytes, myleocytes, et cetera), we are very much in the dark. Many of the theories regarding their supposed origin are very interesting. Time will not permit us to discuss them, so we will simply accept these names for certain forms of leucocytes. Classification according to the form of neucleus gives us mononuclear, large and small, transitional and polymorphonuclear leucocytes. The small mononuclear leucocytes, also called lymphocytes, as seen in Plates III and IV, are small round cells about the size of an erythrocyte or a little smaller, having a relatively large dull-colored nucleus which generally lies eccentrically, very seldom in the center of the cells. Stained with eosin-hematoxlyn, the protoplasm exhibits many shades of reddish violet. In fact the smaller the cell and larger the nucleus the more reddish is the protoplasm and the more intensely dark is thė nucleus. Sometimes it is difficult to distinguish from an erythroblast, but the nucleus never has a chromatin net as in a young erythroblast and never the dark lustre as in an old erythroblast. The large mononuclear leucocytes also called splenocytes, as seen in Plates IV and V, are large cells two or three times as large as an erythrocyte having a round nucleus which in comparison with a lymphocyte is of a much lighter shade. The protoplasm is also much paler.

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[1] Doctor Walker's paper was illustrated by colored charts reproduced from stained films.

The transitional forms, Plates III and V, in comparison with splenocytes, correspond in size and color of both nucleus and protoplasm, the only difference being that the nucleus is not entirely round but has a slight indentation (bean-shaped) or several notches.

The polymorphonuclear leucocytes have been and are yet, for the sake of brevity, called polynuclear leucocytes. The nuclei are always polymorphous. Even when at first sight they seem made up of separate parts, upon close observation we find these parts connected by thin threads. They are in general somewhat smaller than splenocytes but larger than erythrocytes. The nucleus has a deep color and the protoplasm is a little darker than in a splenocyte. They are probably derived from the transitional forms which we saw, kidney-shaped, horseshoe-shaped, et cetera, these finally tearing apart forming polymorphonuclear forms.

Classification according to the micro-chemic reaction is done through the granulations of the leucocytic protoplasm. These granulations are stained by different stains and we can determine the particular granulation by its peculiar stain. We have acid, alkaline and neutral stains. Those granulations taking on the color of the acid stains are called acidophile granulations. The alkaline stains give basophile, the neutral stains give neutrophile granulations and those stained by both acid and alkaline stains are amophile. With Ehrlich's triple stain, which is a mixture of eosin, orange green and methyl green, the erythrocytes are yellow, the nuclei of the leucocytes are green, the protoplasm of the mononuclears is not visible and the protoplasm of the polymorphous leucocytes shows granulations which are purple. We also find a few polymorphonuclear cells with bead-like granules, the size varying, stained a bright red by the eosin, hence their name, eosinophiles, or acidophiles. We see the mononuclear cells show no granules; these have been called "young" cells. We next find the polymorphonuclears with neutrophile granulations which are called "adult" cells upon the hypothesis that the protoplasm of the lymphocyte takes on granulations as it becomes a polymorphonuclear, and carrying it still further the neutrophile granulations become acidophile and we have the eosinophile or "old" cell.

Just how and where these transformations take place no good explanation is given. However, the theory is a convenient one in explaining myclocytes. If we imagine a mononuclear whose granulations have ripened into neutrophile but the nucleus has not become polymorphonuclear but has remained mononuclear, we have a picture of a myclocyte. These are not found in normal blood but are numerous in the bone marrow. Where we have found the neutrophile myclocyte we may also find a farther step in the neutrophile granulations having become acidophile, the nucleus still remaining mononuclear. These are eosinophile myclocytes.

Neusser, by putting an excess of methyl green in Ehrlich's triple stain, obtained little black dots around and over the nuclei, which he called perinuclear basophile granulations. During the physiological leucocytosis of digestion, especially after a heavy meat dinner, they are always present, and **Neusser** thought they had something to do with uric acid for patients with this diathesis have these granulations constantly present. However, they have been found in too many other diseases to be any longer considered a diagnostic sign of the uric acid condition. He further stated that tubercular patients with these granulations seem to withstand the ravages of the disease better than those in whom few are found. If this be so we have a good prognostic sign for tuberculosis.

We may now turn our attention to leucocytosis and its varieties. We have been careless with this term, which really means an increase in the number of leucocytes over the number normally in the case at hand, but leucocytosis and leukemia have been associated together until the former was believed to indicate the latter. Such is not the case for leukemia is diagnosed today as much by the quality as by the quantity of leucocytes. Normally the number of leucocytes in a cubic millimeter of blood is between six and nine thousand or about seven thousand five hundred. Over nine thousand or under six thousand is considered pathological. The increase in number is leucocytosis and the decrease is called leucopenia. Normally there are five hundred erythrocytes to one leucocyte, but this may in disease be greatly reduced and even inverted so there is one erythrocyte to two leucocytes. Normally we find leucocytes in the following proportion:

64%	Polymorphonuclear.
28%	Small mononuclear (lymphocytes).
6%	Large mononuclear.
½%	Transitional forms.
2%	Eosinophiles.

In childhood the proportion is somewhat different. Until about the tenth year we find from twenty-eight to forty per cent. polymorphonuclear and from fifty to sixty per cent. mononuclear, which must be kept in mind when examining the blood of children. We have leucocytoses which are normal or rather physiological occuring in the newborn, during digestion, pregnancy, lactation and in the moribund state. These factors influencing the leucocyte count should always be kept in mind when examining a patient's blood.

A proportionate increase of all the leucocytes is called an absolute leucocytosis, a condition very rarely met with. An increase of all the leucocytes with an unproportional increase of one variety is an absolute relative leucocytosis; an example being an absolute relative polymorphonuclear leucocytosis which in other words means an increase in the number of leucocytes with a prevalence of the polymorphonuclear cells. An increase of only one variety of leucocytes is a relative leucocytosis; an example being a relative mononuclear leucocytosis which means a leucocytosis in which only the mononuclears are increased. Absolute relative polymorphonuclear leucocytosis is most frequently met with in acute infectious diseases and in malignant neoplasms. Relative small mononuclear leucocytosis (lymphocytosis) is caused by rickets and hereditary syphilis in children, secondary syphilis, Basedow's disease, hemophiliæ, goitre, nephritis, et cetera, in adults. Relative eosinophile leucocytosis or eosinophilia is met with after the crisis in pneumonia, and is a good prognostic sign in scarlet fever and in chlorosis. We also find it in uric acid diathesis, skin diseases, trichinosis and many others. Leucopenia or absence of leucocytosis is met with in typhoid fever, pernicious anemia and carcinoma of esophagus.

I have simply touched upon these various forms of leucocytosis in order to point out their importance and with no intention of discussing their significance, which would require a paper by itself.

The various methods of examining the blood which I have presented this evening are those now in vogue and with which much can be learned regarding a patient's blood. It is true that we are able to make a positive diagnosis in only four or five diseases, yet we can supply links to the chain of evidence which goes to make up a diagnosis in a large number of diseases. Evidence of pus formation in the body as revealed by the blood has in my limited experience here induced two surgeons to operate with success. Even the fact that the blood is normal is sometimes of great value in eliminating certain diseases. The blood is also of some prognostic value and further study may not only help us in diagnosis but to a better knowledge of certain diseases.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, JANUARY 3, 1898.

THE PRESIDENT *pro tempore*, F. L. NEWMAN, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR DON. M. CAMPBELL read a paper entitled "Headache." (Se page 207.)

DOCTOR HITCHCOCK: The doctor in his able paper has discussed the subjec from the standpoint of the oculist as well as from the standpoint of the genera practitioner and neurologist. DOCTOR CAMPBELL would naturally confine hi examination to a narrow scope and test the eyes of a patient referred to him b a brother practitioner. If a patient comes to the general practitioner he must have the whole field in view and look into the different causes which may produce the headache. I presume if the question of any specialty is of any special value to the patient it will be this—that the specialist will be more likely, perhaps, to quickly and correctly diagnose those headaches due to abnormalities along his special line of work. The question is an interesting one as to what headache is. That perhaps may be answered by saying pain referred to the head. Doctor Campbell has referred to many theories indulged in, and I do not know that we are very much further along in our knowledge of the pathology of the condition here presented than we were several years ago. Some writers have held that headache was always due to some disturbance of intracranial pressure. So far as the neurologist is concerned he, of course, will naturally think of reflex headache due to some distinctive nervous disease, as for instance, neurasthenic headache, hysterical headache, organic headache due to tumors, or syphilitic headache. I reported a case to this society two or three years ago due to syphilis. The patient had developed two attacks of syphilis and came into the hospital suffering from frightful headache. He had aphasia and shortly after had right-sided hemiplegia. His headaches occurred always at night which is typical of syphilitic headache. He made a good recovery on antisyphilitic treatment.

Doctor Douglas: I think perhaps I might profit by what I have listened to tonight and consider the subject altogether too large to discuss in such an intelligent manner that any person could absorb very much from it. In reality there is so much to the subject, and it can be approached in so many different ways, that it seems almost impossible to take it up and discuss it carefully. Perhaps it would be just as well to look at the subject from your own personal way of meeting it. I will speak on it along that line. I find that I am continually differentiating between intracranial and extracranial disturbances when a patient complains to me of an intense headache. Whether I read it that way, gaining information from any principles of reason or from mere habit, I cannot say. Perhaps I have by practice become more competent to judge of the patient's condition simply by looking at it from that standpoint. I cannot make it very clear to others, and yet, still, it enables me I think to treat the patient a little more intelligently. We all become more or less routinists through habit, and we certainly must have some mode of reasoning by which we arrive at our routine. Sometimes I find very great difficulty in drawing the line between headache that is external and one that is internal, but by cross-questioning the patient very thoroughly I generally get a reasonable idea of the variety. My understanding of that is this—that the headaches which I analyze as extracranial are less serious and more amenable to treatment. When you look at the extracranial forms of headache you cannot classify them under any particular head. The source of irritation, as far as my thoughts reach on the subject, would lead me to consider them as most generally due to blood disturbances. Some will say that all headaches are due to blood disturbances, and so perhaps they may be considered in that way, but the particular blood disturbance which seems to present itself to me is more of the infective character, where there is actual change in the condition of the blood. I find that marked in febrile disturbances, such as la grippe. That disease is marked by most intense headache and the patient complains of it being very severe over the eyes, ndicating some affection of the frontal sinuses. In other febrile disturbances, as for instance, in the neuralgias which occur in connection with malarial disurbances, we find a great deal of scalp pain. Sometimes I have been in doubt vhether the pain was inside or outside. I do not mean to say that in malarial roubles we always find pain external, but in the milder varieties my reading of hem is that the headaches occur there most commonly. Then, again, there is nother class of headaches which come very commonly in lithemic conditions, inding the pain right over the occiput, patients as a rule inheriting the tendency o lithemic headaches. Now, then, we have headaches from all sorts of blood disturbances, not from external causes but from internal causes as well. The fact is we are more or less in a condition of blood disturbances all the time, and one of the ways by which nature manifests that is by cephalalgia or migraine, and these disturbances are generally due to errors in the animal economy. Among these dietetic errors are the most common causes of headache, and are more frequently met with than those due to mental or physical exertion. It is interesting to inquire into the particular disturbance that is producing this manifestation of pain which may be of any degree from the slightest extent up to the most excruciating character. I do not think that it would be possible for any person to handle this subject satisfactorily unless it were cut down to one particular line, such as cephalalgia or migraine, and trace that out. The immensity of the subject almost appals anyone when they attempt to express themselves intelligently or understandingly.

DOCTOR LONGYEAR: There are only a few remarks that I wish to make on the subject, and which pertain mostly to my own especial line of work. I often wonder what the exact condition of the brain is in some of these headaches that I find in women, due to displacements of the pelvic organs, for instance. A woman will come into the office with a pain in her head mostly in the middle. I find it characteristic of displacement of the uterus or some disturbance in the cervix. As soon as the difficulty is corrected the headache is promptly relieved. The cause is usually reflex. Another class of headaches very commonly observed come perhaps from a threatened diarrhea due to some fermentation going on in the intestinal tract. It may come from some toxic condition or absorption of ptomains.

DOCTOR WARREN: It seems to me that we know very little about the accurate pathological condition in connection with headache when due either to intracranial or extracranial pressure. It is a subject that has been thoroughly investigated time and time again. DUBOIS-RAYMOND came to the conclusion after a series of laboratory experiments that headache was due to congestion—venous or arterial. Two other German investigators came to the conclusion that migraine was due to the fact that the blood-vessels in the brain were anemic. Neither one of these theories has had much to do with our treatment. Our object is to remove the cause of that pain, and so I think that it is just as well to let the pathology of headaches rest, or let it be investigated by the men who study laboratory physiology so systematically, and let us attack the headaches as they come to us and make a thorough and systematic examination in each case to determine if possible what is the remote cause of the head pain. The division of headache into organic and nonorganic is a good one. Syphilitic headaches occur at night, while other headaches are relieved when sleep is produced.

DOCTOR SHERRILL: The particular thing that I would like to refer to is to suggest to the members of the society the desirability, in dealing with these cases, of making use of phosphate of soda. Wyeth has recently put on the market a granular effervescing phosphate of soda. I have been led to use this remedy in cases of this sort because I was very much impressed with a statement made that there is no remedy so useful in furunculosis as phosphate of soda. One author, in his work on "The Action of Medicine," speaks of phosphate of soda being more effectual in its action on the liver than calomel.

DOCTOR FLINTERMANN: The difficulty in discussing this topic is that we do not know where to commence and where to stop. The subject has been pretty thoroughly discussed, and for that reason I will not take up your time in an extended remarks. What I would like to mention here tonight is that the medical profession as a whole should protest against that indiscriminate use of coal-tar preparations in the treatment of any kind of headaches. An immense amount of harm is done by the use of these dangerous remedies. You see then advertised all over the United States.

DOCTOR F. L. NEWMAN: The whole thing is given in a nutshell by DOCTOR DOUGLAS, when he says we diagnose headache by the result of our treatment.

The malarial headache is only demonstrated to us by the administration of large doses of quinine, and so with the rheumatic headache when we give salicylates, and so with the gouty headaches we cannot tell what is the cause until we give remedies for that condition.

STATED MEETING, JANUARY 24, 1897.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.

REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS

DOCTOR DELOS L. PARKER read a paper entitled "Remarks on La Grippe." (See page 210.)

DOCTOR F. L. NEWMAN: It seems to me that if a paper like this would be read generally by the laity it would very materially lessen the death rate from la grippe. The public do not understand the significance of the disease. The point in the paper that was new to me was its contagiousness. Since PFIEFFER isolated the bacillus it has been proven that the disease is contagious. That would naturally bring us to the subject of isolation. If it is as contagious as it is reported to be surely some partial isolation ought to be effected, and it appears to me that the best method at hand would be in letting the general public be better aware of the contagious nature of the disease and then the individual who has the disease would not be troubled with visitors. I can thoroughly endorse the doctor's remarks about the fighting qualities of the disease. With regard to the treatment, of course we have no specific for la grippe, and in a disease which changes its symptoms with every epidemic and from year to year we cannot have any routine treatment. A great deal has been written about prophylaxis. We are told that seven or eight grains of quinine will entirely ward a person against la grippe. It is difficult to get patients to take that. Bicarbonate of sodium, in thirty-grain doses, is stated to be a certain prophylactic against it. Another remedy, introduced by RICHMOND, is the inhaling of the fumes of eucalyptus. As far as the medical treatment is concerned in a mild and uncomplicated attack of la grippe I think the physician that persuades his patient to go to bed does more for him than any remedy. In my own experience liberal doses of phenacetine stops the pain and reduces temperature. As soon as the febrile symptoms have subsided very large doses of strychnine will ward off the almost inevitable depression.

DOCTOR WILLIS S. ANDERSON: My first experience with this disease was when I was living in New York City in 1889 and 1890. A great many cases occurred in that season. The two types of cases I noticed especially were, first the catarrhal type and second the nervous. The disease has continued with greater or less severity ever since those years, until now it has become quite a common thing to have influenza; in fact it has become so common that the laity diagnose their own cases. It has occurred to me that there are a great many cases diagnosed as influenza that do not properly belong to that disease, although it seems that influenza is capable of affecting almost any organ of the body and the symptoms are so varied that one is often at a loss to know what is true inflnenza and what is not. The point in the doctor's paper that seems to me the most valuable is the one that advocates rest and attention to warmth during the course of the disease. The complications and sequelæ are due in a great many instances at least to neglect on the part of the patient. During the last two years I have seen a number of persons with various affections that give as a starting point of their trouble an attack of the la grippe; quite a number with coughs, some with middle ear troubles and a number with pharyngeal disturbances. Whether the grippe has been the cause seems a question. There is one particular lesion that I have seen many times which is worthy of notice, and that is hypertrophy of adenoid tissue of the posterior pillars. Very often this simple trouble will keep up a hacking cough until the lesion is removed.

Doctor Jennings: From the doctor's paper it would seem that la grippe is prevalent at the present time. In my own experience I have not seen a case of influenza for four or five years. The difficulty prevailing at the present time has none of the clinical characteristics of influenza. We have an opportunity here for bacteriological investigation. I do not think these various catarrhs prevailing for several years have been studied sufficiently to warrant us in saying that they are influenza. The profound nervous manifestations, the profound systemic disturbances characterized by a temperature of 103° and 104°, the most distressing and severe aching are not present. I am inclined to doubt very much the identity of what has been prevailing for the last three or four years from time to time with influenza. The history of influenza for years back teaches the lesson that its course as a great epidemic is about one year and then it dies out. In regard to its contagiousness, it is probably, I think, one of the most contagious, equally as much so as small-pox. Its period of incubation is exceedingly short—two or three days—and that will account for the remarkably rapid spread of an epidemic. The epidemic first began in Bokhara, invaded Saint Petersburg in October, and had reached New York in January—about two months. The great epidemic of 1846 was in Saint Petersburg in January and it was not until December that it reached New York, although just as widespread and just as severe as the one we have experienced. It would seem as though the facilities of communication had something to do with the spread of the disease. The communication from Saint Petersburg to New York was slow in 1847, it was rapid in 1896. I think the evidence is so strong that it is intensely contagious we will have to class it with those diseases that are contagious. Its contagiousness, its short period of incubation and the rapid communication from one individual to another are the three factors that are the most prominent. In regard to the treatment, I have not much to add. **Doctor Parker** has given the keynote of the treatment by ordering the patient to be kept in bed. The disease is one that renders the patient intensely susceptible to the invasion of streptococcus and staphylococcus.

Doctor McClintock: **Pfieffer** was unable to establish the proof that his germ was the cause of la grippe. He was able to grow the germ from pure culture but could not reproduce the disease in animals. **Doctor Jennings'** suggestion that there might be some good work done in bacteriology, so as to ascertain whether the epidemics we have are due to that agent or not, is a good one. Leaving aside that question I would like to give my experience in regard to the treatment of the disease, as we have had it during the last three or four years in connection with an older physician, in Ann Arbor among the students. We gave phenacetine and salol, and I came to have great faith in salol. The older physician recognizing that phenacetine gave almost immediate relief from pain inclined that way. I gave phenacetine and salol, shutting off the phenacetine later and giving large doses of salol. The disease is associated with the uric acid diathesis. For that reason there seems benefit in giving salol.

Doctor Bonning: I am glad **Doctor Jennings** brought up the question between true influenza and the various catarrhal conditions. I think our bacteriologists could do some good work.

Doctor Parker: In regard to the identity of the disease as we see it today as compared to the disease as it came to us in 1889, it certainly has changed very much, and it is possible that if the germ could be isolated and by inoculation proved to be the cause of the disease and our bacteriologists had the same germ to start with they might be able to determine what the disease which now exists is. Individually I have indulged in la grippe twice a year. I never started to do so until the fall of 1889, and I have not missed a year since without having had it. The two points in the paper that I would emphasize are that as the disease passes from one member of the family to the other confinement in the house in a warm and even temperature is strongly to be urged, and that the patient should guard against the possibility of these sequelæ, many of which are of such a disastrous nature.

STATED MEETING, JANUARY 31, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR H. O. WALKER read a paper entitled "Gastrectomy." (See page 202.)

DOCTOR FRANK B. WALKER: I have had some experience in surgery upon dogs, and also in connection with the experiments reported here this evening, and am therefore quite interested in the subject. There are several points of interest, one of which is that this operation, although it startled us as a new operation, is not necessarily a new one. It has been considered for at least a score of years. It was first suggested by MEREM, and soon a number of able surgeons, especially in Germany, endeavored to perform it. One case only has survived. LANGENBUCH performed the operation a number of times alleging that they were all gastrectomies although only portions of the stomach were removed. He claimed that for anatomical reasons the removal of the entire stomach was impossible. As far as these experiments are concerned there are some conclusions which are not easy to draw. Of course the presence of considerable fluid on postmortem examination would indicate that hemorrhage was the cause of death. However, the amount varied. In one case particularly there was very little hemorrhage. That dog lived forty-eight hours. The temperature in apparently healthy dogs shows a variation from 100° to 101.5°, so that a temperature of 103 or 103.5° is not a high septic temperature. The pulse varies in healthy dogs also from 72 to 120, and respiration correspondingly. The Murphy button was used in three cases, in two of which the esophago-duodenal extremities were closed satisfactorily as those dogs were easily manipulated in this way. In the other case it was difficult to pull the esophagus down so as to make union. The results in these experiments demonstrate satisfactorily to my mind that the Murphy button is not preferable to suturing in this kind of work.

DOCTOR METCALF: During the last month I have operated upon twelve dogs, varying the method of procedure slightly to the plan employed by DOCTOR WALKER. Believing it unsafe to use the Murphy button without fortifying the anastomosis by suturing, I used it in four gastrectomies with the following results:

Case I.—January 2: End-to-end esophago-duodenal anastomosis. Time, two hours. Dog died about five hours after—supposed cause, morphine. Autopsy showed no hemorrhage, and the button still holding parts in proper coaptation.

Case II.—Same day: Esophago-duodenal lateral anastomosis. Murphy button used. Time, one and three-fourths hours. Dog lived seventy-three hours. Autopsy showed faulty anastomosis.

Case III.—January 14, 8 A. M.: End-to-end esophago-duodenal anastomosis. Murphy button used, fortified by Lembert sutures half way round circumference. Time, one and two-thirds hours. Dog lived sixty-three hours. Autopsy showed opening upon side where sutures were not used.

Case IV.—January 20, 8 A. M.: Esophago-duodenal lateral anastomosis. Decalcified bone button used. Peritoneal surface approximated by continuous suture. Time, one hour and fifty minutes. Dog died at 5 P. M. No post-operative hemorrhage, and perfect anastomosis, were shown at autopsy.

The above truly tending to show that the use of the buttons was only to coapt the parts while suturing, I determined to use very hard candy for this purpose. After experimenting with various forms made in molds and otherwise, I finally had sticks of candy made of various sizes. I broke them by means of a file into pieces one and one-fourth inches long, and burned a groove one-fourth of an inch wide and three-sixteenths of an inch deep around the center, with a heated skewer. A spiral suture passed around the cut edge of the esophagus and another around the opening into the intestine brought the edges of each to the bottom of the groove in the sugar button and held them firmly in apposition until the peritoneal surfaces could be sutured together. The button at the bottom of the groove should be as near the size of lumen of intestine as possible.

Case V.—January 2, 8 A. M.: Esophago-duodenal lateral anastomosis, using sugar button. Time, one hour and twelve minutes. Dog died at 6 o'clock. Autopsy—no hemorrhage, perfect anastomosis.

Case VI.—January 22, 8:30 A. M.: Time, one hour and twenty minutes. Dog died at 5 P. M. Autopsy—hemorrhage.

Case VII.—January 24, 8:30 A. M.: I severed the right rectus muscle and endeavored to secure each artery separately and avoid ligating *en masse.* I found this process tedious and unsatisfactory. Dog died at 5 P. M. Autopsy—no hemorrhage and satisfactory anastomosis.

Case VIII.—January 28, 8 A. M.: Time, one and one half hours. Dog lived eighty-three and one half hours. Temperature ranged from 101° to 105°. Pulse from 118 to 130. Autopsy showed perfect anastomosis except at one point to which the liver was attached, upon separation of which a small opening was left. Considerable local peritonitis. About a pint of dark brown fluid in abdominal cavity. The dog did not apparently suffer until the last three hours of life. She took considerable liquid nourishment and passed from three to six stools a day. Two small pieces of meat were given. They appeared in stool, unchanged, in about fourteen hours.

Case IX.—January 29, 8 A. M.: Time, one and one-half hours. Dog died of hemorrhage at 8:30 P. M.

Case X.—January 29, 10 A. M.: Dog died during night. Autopsy showed that she had died of hemorrhage, and that the anastomosis was satisfactory.

Case XI.—January 30, 8 A. M.: Time, one hour and twenty-five minutes. Dog died at 5 P. M. of hemorrhage.

Esophago-duodenal lateral anastomoses were made where not otherwise mentioned. Finding by postmortem examinations that some cases showed considerable tension, and that this was greater the farther the union was made from the pyloric end of the duodenum, I decided to make the anastomosis with the jejunum about sixteen inches from the duodenum which I did.

Case XII.—January 30: Time of operation, one hour. This dog's temperature next morning was 99.5°, and pulse 120. Evening temperature 100.6°, and pulse 120. She is now in good condition, taking liquids by mouth, and apparently free from pain.

The sugar button was used in all cases except the first four. Before closing the abdomen the esophagus should be again pulled down that any bleeding caused by former traction upon it may be checked by encircling the points with sutures. I am indebted to DOCTORS YATES and BAKER and COLLINS for assistance in this work.

DOCTOR HOUGHTON: In 1882, LUDWIG, desiring to study the functions of the stomach, and thinking of SIEBER's paper that had been read four or five years previously, wrote to CZERNY asking him what had become of the dog, and in answer CZERNY sent him the dog. LUDWIG and his pupil OGOTA obtained permission to make a postmortem and found that the stomach had been entirely removed. A few years ago, at the University of Michigan, in making experiments on the absorption and excretion of iron, we made several experiments on dogs. The point which we desired to prove was not successful. We had the same difficulty that DOCTOR METCALF met with. The animals would succum very quickly. I have never observed fatal effects in dogs from such small dose of morphia as DOCTOR METCALF reports.

DOCTOR ANGUS MCLEAN: There seems to be an impression that the case o DOCTOR SCHLATTER was an esophago-duodenal anastomosis. It was simply a anastomosis between the jejunum and the esophagus, the jejunum being carrie over the transverse colon.

DOCTOR AARON: The cases that have been reported tonight have been interesting to me because the result will have a tendency to stimulate us all when endeavoring to make an early diagnosis for cancer of the stomach. This is a time that I would remind all practitioners, both general and surgical, to make a chemical and microscopical analysis of the contents of the stomach. If the surgeons are to achieve any success in removing any part of the stomach the diagnosis must be made early. Can we live without the stomach? I think tne fact has been proved that we can do so.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, DECEMBER 28, 1897.

The President, DAVID INGLIS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Thaddeus Walker read a paper entitled "Some Clinical Methods of Examining the Blood." (See page 211.)

Doctor Manton: Practical experience is necessary in doing this kind of work properly, yet the work is valuable both in making a diagnosis and in the confirmation of a diagnosis previously made. It is not so easy as it looks to draw the blood into the tube without getting in air also. The majority of physicians will not have the time to go through all the work and preparation necessary, yet every one can collect specimens and turn them over to those who do have time and skill to make the examination.

Doctor Emerson: I have been much interested in the paper, but in the same way as I should be in astronomy. I am in no position to discuss it. When we have laymen making such comments as have lately appeared in regard to the value of the health office, it is well to point them to those who are making such a study of these scientific points so as to give proper respect to the profession. It is an argument to preserve the solidarity of doctors against the flood of abuse which is being poured upon them by those incompetent to judge them.

Doctor Mann: The paper has been a revelation that hematology has got so far that it is possible of indefinite expansion. Much can be expected of it in the next ten years along the line of immunity from disease. It may become possible to find that we are immuned of certain diseases by an examination of the blood. It will help greatly in the diagnosis of many diseases. It is wise to stimulate all who are following this line.

Doctor Robbins: Practically such examinations are a great help in cases in which the diagnosis by the blood can confirm or disprove the clinical diagnoses. In cases in which there is a possibility of suppuration it is a satisfaction to know that the blood shows that there is probably no pus. In a case of mine in which there was a long continued fever due to intercranial trouble and it was doubtful whether due to an adhesive or suppurative inflammation, the blood showed the unlikelihood of suppuration.

Doctor Wilson: I think without doubt the investigation of the blood will help us out in making diagnoses, but at present, owing to the difficulties, robably it is expensive and is not suitable for the general practitioner.

Doctor Hitchcock: Every doctor has cases in which it is most desirous to now the condition of the blood, yet it is an impossibility for the general ractitioner to do much with it, and such work is limited to a special field. It ay be possible in the future to tell all diseases from an examination of the lood.

Doctor Inglis: We seem to have made a good start in the subject tonight, nd while we have learned a good deal, we are at a disadvantage in the disussion. This line of investigation will have to be confined to a special class of hysicians. Such examinations will help us not only to make diagnoses, but also to understand the processes going on in the blood. We need a great deal of information about nutritive processes going on in the body.

Doctor Thaddeus Walker: In answer to **Doctor Shurly**'s question about the use of Gower's hemaglobinometer with the hematocrit, I would say that I have no personal experience with Gower's instrument but believe its principle lies in diluting blood to equal the same shade of color as the standard. Fleischel's instrument is a later invention which claims to overcome some sources of error in Gower's and is always spoken of as the best clinical method of estimating hemoglobin. I think, however, that for quick, rough clinical work the hematocrit and Hammerschlag's method *might* be used to form an opinion of the blood at hand, and if the results showed a pathological condition we could subject it to a more careful and accurate examination.

MICHIGAN STATE BOARD OF HEALTH.

ANNUAL MEETING AT LANSING, APRIL 8, 1898.

The President, Honorable FRANK WELLS, in the Chair.

Reported by HENRY B. BAKER, M. D., Secretary.

In commenting upon the work of the past and coming years—

Mr. Frank Wells said: "It is a recognized law that bodies in motion move through lines of least resistance, that a road once traveled is more likely to be again traveled than a new one in a similar direction, and that we are all prone to get into ruts from which it is difficult to extricate ourselves. It was perhaps with this knowledge in view and with a hope that the attention of this board might sometimes be called to special lines of work which otherwise would have been overlooked by it, that an address from the president of the board was made a feature of each annual meeting. In complying with this requirement today, I find it impossible to discover any ruts from which the board should be pried out, or roads they should discontinue to travel." He congratulated each member on the regular and special meetings he had attended during the year. The greater part of the president's address related to the outbreaks of typhoid fever along the Saint Clair and Detroit rivers—at Port Huron, Saint Clair, Marine City, Detroit and Wyandotte—especially the recent one at the city of Saint Clair. He was emphatic in his belief that the board should enter upon a more thorough investigation of the waters of Saint Clair river, with a view to ascertaining if possible where, when, under what circumstances, and how the river is contaminated, whether the contamination is intermittent or constant, what is the result of dredging the sewage sludge out of Black river at Port Huron, and whether the contaminations which constantly enter the river at Port Huron find their way into the water supplies of the cities along the river, and under what circumstances such contaminating material finds its way into the water supply of Detroit. The questions are of vital importance to the citizens residing along the Saint Clair and Detroit rivers, and such investigations would be of inestimable value. The president said he knew that the funds at the disposal of the State Board were inadequate. but he hoped that the board would see its way clear to pushing the investigation at least far enough to learn the importance of such work, when, if it proves to be as important as he thought, the legislature would undoubtedly do as they have in other states, make provision for having the investigation properly made.

Doctor Baker, of the board, mentioned that he had had several samples of water from the river examined—from the river as it leaves Port Huron, from the river opposite the intake at Saint Clair, from the water-works in Saint Clair, from a tap in Saint Clair, and from the river as it leaves Saint Clair. All of the samples were found to be contaminated by disease-producing germs; and all but one promptly caused the death of animals, and that one made them sick.

For the purpose of supplementing this work, he had urged the mayor of Marine City, and the president of the village of Algonac, to proceed under Act 43, laws of 1897, to have the water at their respective places tested by the University authorities at cost. He had likewise urged the engineer of the Detroit waterworks, and the health officer of Detroit, to have daily bacteriological tests made of the water supplied to that city. He also hoped that the State Board would take some action.

On motion, the board voted to authorize the expenditure for such investigation of a sum not to exceed two hundred dollars to be expended at the discretion of the president and secretary, if it is found practicable to make the investigation as outlined.

The president and secretary reported progress in the different lines of preparation for the Quarter-Centennial Celebration of the Establishment of the State Board of Health, to be held in Detroit, August 9–11. It is proposed to make this meeting the most important sanitary convention ever held in Michigan.

PROFESSOR NOVY, special committee, to whom was referred the question of "Teachers' Sanitary Bulletins," reported that the proposition was an excellent one and the educational value of such bulletins would be great. It is proposed that these bulletins be issued to teachers with a view to keeping the educational forces throughout the State in constant touch with the results of recent sanitary research. The doctor had also been appointed a special committee to determine the relative efficiency of disinfection by sulphur fumes and by formaldehyde, and rendered a written report of a very thorough experimental investigation which will make room-disinfection much more easy and less destructive of valuable articles. His work included twenty-six room-disinfections, and the use of five thousand specimens of twenty different species of germs that were exposed and afterward cultivated. The disinfection was performed in a specially-prepared room containing one thousand cubic feet of air space and as near as practicable air tight. He found that when one hundred and fifty cubic centimeters (about five fluid ounces) of commercial forty per cent. formalin were distilled into a room containing one thousand cubic feet of air space, all moist disease germs were killed. Heretofore, obstacles to the general use of formaldehyde have been the great cost of the apparatus for using the paraform or the formalin for regenerating formaldehyde, and the unreliability of the action of apparatus for generating it direct from wood alcohol. PROFESSOR NOVY has devised and used a very simple and inexpensive apparatus for distilling commercial formalin into a room through the keyhole. Formalin can be purchased for fifty cents a pint. Five fluid ounces will suffice for the disinfection of one thousand cubic feet of air space. The disinfection of a room can be effected without entering the room, the apparatus being outside the room where it can be watched and the danger of fire inside the room entirely obviated. PROFESSOR NOVY'S work is very valuable. His report will be printed in pamphlet form and widely distributed, in order to educate the teachers and people of Michigan in the methods for such disinfection. This work will be an important step by the State board because of the simplicity, cheapness and effectiveness of the method.

EDITORIAL ARTICLES.

A LAYWOMAN'S CRITICISM.

IT is seldom that the laity feel called upon to publicly criticise the methods of medical practice. Medical progress and the benefits of it have reached the laity only through the medical profession. In consequence of this, doubtless, there has seemed to be a tacit submission to the judgment and will of the doctor, in the acceptance of which the judgment of the patient is usually suspended, or merged into that of the doctor. It is well this is so. A realization of the full benefits of medical service demands the maintenance of this attitude.

The experience that one laywoman, **Mrs. R. M. King**, had in taking chloroform a number of times, gave her the cue as to its proper administration. This in the light of its general use and occasionally unfortunate effects has incited her to revolt against the manner of its administration to her in England. It appears from her article in *The Nineteenth Century* for March that there it was given her undiluted with air and the pad closely clapped over her mouth while still partially conscious, causing her to struggle frantically against the burning and choking effects of the chloroform. After quoting at some length from the report of the Hyderabad Commission concerning the criterion of respiration and its noninterference during anesthesia, and contrasting with it the pulse criterion method, she says "that, having myself taken chloroform, more than once, under each system, I can from my own experience testify that under the one method there is nothing to excite or distress the patient, while under the other he is made to taste the very bitterness of death."

While a rational explanation of this woman's distressing experience is readily indicated by known facts pertaining to idiosyncratic tendencies and possible chemical changes in the drug used, yet the insecurity of our knowledge of the real effects of chloroform suggests a becoming modesty and respect for a patient's feelings and ideas of comfort. We flatter ourselves that reports of death under chloroform are not as frequently noted in this country. They are frequent enough, however, to suggest something more than a mere coincidence. Chloroform as an anesthetic instrument possesses peculiar advantages over both ether and nitrous oxide gas. As a drug it requires the same cautious consideration as any other toxic remedy. Furthermore, the confidence of the public demands not only its safe but also its esthetic administration.

ANNOTATIONS.

RECOVERY FROM APPARENT DEATH.

A **remarkable** exhibition of undaunted perseverance was recently exhibited by **Doctor Gimbert**, of Cannes (*British Medical Journal*, April 2, 1898). He was called to a case of postpartum hemorrhage; "in a vessel there was a litre and a half of blood, and the bed was soaked. The inert uterus reached to the umbilicus; the pulse could hardly be felt." The birth of the placenta was accompanied by a fresh gush of blood, estimated at three litres. Symptoms of death immediately supervened. "Instantly the body and head seemed to shrink; the skin was cold as a corpse. No heart beats, pulse, respiration, nor reflex of any kind could be detected." The patient was placed across the bed, the head lowered, rhythmic tractions made on the tongue, direct insufflation made, heat applied to the chest, but with no effect. Fortunately it was convenient to give hypodermic injections of saline solution. After the third injection (sixty cubic centimeters in all) the patient gave a slight sound but no heart sign. Following the fourth injection of twenty cubic centimeters a slight impulse was felt in the right radial artery. Other signs of life gradually appeared. At the end of two and a half hours resuscitation was assured, and four hours later the patient was safely left. The author attributes his success to the hypodermic injections. He preferred this method to venous transfusions not merely because more convenient but because in his opinion the serum is less toxic when mixed with blood than when circulating in a purer form and when absorbed produces less shock than when administered direct. These deductions are well worth considering. Venous and arterial transfusions in such cases are radical measures and yet are usually sadly inefficient. The favorable outcome of this case suggests the importance of experimental research.

THE PROTEAN FORMS OF TUBERCULOSIS.

Thanks to bacteriologists and pathologists our ideas concerning many diseases are greatly changed from the opinions of the last generation. As a result of the development of these two sciences the supposed relationship of many diseases and their classification have been modified to a considerable extent, and with two opposite effects. Distinct diseases like gonorrhea, chancroid and syphilis, associated in origin and frequently assumed to be related forms of the same disease, have been thoroughly differentiated. So, too, sarcoma and actinomycosis hominis, though symptomatically similar and pathologically nearly identical, have revealed their distinguishing characteristics. On the other hand apparently dissimilar affections like psoas abscess and lupus have been shown to be only different manifestations of the same disease. For our knowledge of tuberculosis we owe much to these sciences. The several articles in this issue, comprising the symposium on the subject of tuberculosis, indicate the far-reaching effects of the tubercle bacillus. In the recognition of the cause, the symptoms and the diagnoses of these conditions we have made great progress. Furthermore, the determination of the primary and secondary forms of the disease by the microscope and the needle has become possible and often materially modifies the prognosis. In treatment we have progressed also and yet we must frequently admit our helplessness. Surgery is able to do much more than ever before, and yet it has its limitations. From serum therapy we have had a degree of encouragement. In the absence of a more specific antitoxic remedy preventive medicine offers our greatest resource against this hydraheaded disease.

THE NATIONAL MEDICAL MEETING.

Despite the foreboding and distracting "war news" of the past few weeks the approaching Denver meetings have not ceased to arouse considerable enthusiasm. The Academy, the Medical Editors and the Colleges will conduct their usual business and festivities, but the chief interest centers in the American Medical Association. A canvass of the several State societies has given promise of a large attendance. For the accommodation of all the Committees of Arrangements and Transportation have well provided. It is now generally understood that the railroads throughout the country will furnish round trips for a single fare and two dollars, and permit holders to go one way and return another. The time limit will also allow a visit to the Omaha Exposition.

Denver and Colorado physicians have raised several thousands of dollars with which they propose to dispense their own gracious hospitality and acquaint their guests with their naturally beautiful and healthful resorts. The scheduled papers indicate a highly successful meeting. Doctor William B. Atkinson, Permanent Secretary of the Association, has embodied the following information in the fifty-first annual announcement:

" The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies *as are recognized by representation in their respective State societies*, and from the medical departments of the Army and Navy and the Marine-Hospital Service of the United States.

Each state, county and district medical society entitled to representation shall have the privilege of sending to the association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number; *provided*, however, that the number of delegates for any particular state, territory, county, city or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the code of ethics of the association.

Members by Application.—Members by application shall consist of such members of the state, county and district medical societies entitled to representation in this association as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

The following resolution was adopted at the session of 1888:

That in future each delegate or permanent member shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

Secretaries of medical societies, *as above designated*, are earnestly requested to forward, *at once*, lists of their delegates."

CONTEMPORARY.

BREVITY AND SIMPLICITY IN MEDICAL WRITING.

[THE LARYNGOSCOPE.]

The intention of contributors to medical literature is presumably to impart knowledge. The purposes subserved by polite literature for the masses are principally of an entertaining nature, with the pointing of correct morals as an incidental, but the writer on scientific topics aims to set down what he either knows or believes to be true. The former finds a wide field for the play of fancy; the latter is quite strictly confined to demonstrable or supposed facts.

The writers of fiction delight in long stories, but the medical mind finds life too short and the fields of imperative investigation too broad to tolerate useless verbiage. One of the charming features of the Bible is its simplicity of thought and language. The same is true of Caesar's Commentaries, Virgil's Æneid, the poems of Horace and Homer, Xenophon's Anabasis and the dialogues of Socrates—keys to the classics that will be perpetuated as long as our race retains an interest in the Greek and Latin tongues. Their construction of language, like the architecture of the Grecian temples, commands the admiration of all who study it. Their methods of conveying thought are matchless gems of naturalness and perspicuity.

In our own day, scientific writers, like Huxley, who make the most abstruse and perplexing problems seem as school-boy examples, are models after whom we can well afford to pattern. The story of the late war between the States, as told by General Grant, a man of military affairs rather than of letters, is the more fascinating because of its direct and unaffected manner, like that of Caesar, whom he emulated in the best sense only.

If direct, plain and terse language is admirable in popular authors, how much more desirable is it in teachers of subjects which require close mental application. The opposite of these qualities too often afflict several classes of medical writers. It would be possible to mention a book on ophthalmology, of cumbersome proportions, in which many of the subjects are so obscured by ambiguous verbosity that the reader feels, after floundering through a miry article, that his intelligence has been imposed upon and that he has paid for something which he did not get. Such writers befuddle the brain, and their productions are likely to be short-lived. Ophthalmology has evolved an elaborate nomenclature and a system of symbols peculiar to itself. It has become permeated with exclusive technical terms that render the average article on diseases of the eye an enigma to the general practitioner. Contributions of this character in journals on general medicine are riddles to the majority of readers.

Is such enforced exclusiveness necessary and intended? If it is, what will be the result, if not to alienate the great mass of physicians from specialists. The ever-widening chasm between the specialist and the general practitioner is not of the latter's making. His language changes little. He does not delight in double and triple hyphenated mixtures of Greek and Latin roots with Saxon terminations. While he progresses with the growth of medical science, he does not walk with stilted gait, but remains the same plain man whom everyone can understand.

In otology and laryngology there is appearing a similar tendency to emphatically segregate this specialty from the coordinate branches of medicine. The effort is apparent in the adoption of high-sounding technical phraseology derived from the dead languages, and too often of a mongrel origin. This tendency is gratuitous and should be repressed. The medical profession is already too much divided. Our multiplying specialties may yet prove to be our tower of Babel. It is already sufficiently difficult to understand one another. What with the ophthalmologist, the laryngologist, the gynecologist, et cetera, medical language, with its insufferable proliferation of technical terminology, will outgrow the power of man to master. We are flying apart like the tail of a comet; let us keep nearer the great body of the profession.

It is quite a common error with beginners in medical writing to assume a manner of expression entirely foreign to their natural speech. It appears as if they felt the necessity of assuming an inflated style of language such as they have somewhere seen and admired. They must, as it were, speak in a trance, guided by the spirit of learning, in such lofty sentences and rhythmical cadences as to astonish their everyday friends. Now, the average mortal loves unadulterated nature, and we readily incline toward naturalness, or realism, in literature. When a man says clearly just what he means, in a way that you cannot help but understand, you mentally say: "That is good; I like that," and you go on reading his article to the end, enticed sentence after sentence by such a plain presentation of his subject that it appeals to your appreciation of the beauty of simplicity, and you follow him to the end, in spite of the fact that you merely glanced at the article, intending not to read it. This man gets you by a sympathetic chord and he holds you. Whenever you see an articled labeled with his name you do not leave it until you know its contents. It is like the child and the sugar bowl.

Short articles invite attention. They are the ones that are the most likely to have many readers, other things being equal—we will not say *ceteris parabus*—for English is good enough, and stands a far better chance of being understood by the majority. And is it not the majority for whom we write? Men of finished scholarship will surely understand; the mediocre will not trouble themselves with that which costs a mental effort. We recognize the fact, however, that all articles cannot be brief and yet be complete and finished products.

The habit of sandwiching one's articles with words, phrases and sentences from foreign tongues is always a source of vexation to a large part of one's readers. There are two reasons for resorting to these foreign injections. In one case it is fair to presume that the writer believes that his readers are conversant with the foreign tongue that he has studied. If this be true, why not write the whole article in that language which he apparently considers will the more worthily express his thoughts? In the other instance the writer drops into foreign expressions, by the grace of his dictionary, to confound his readers with his superior learning, forgetting that the architecture of his own language is a very mirror in which is reflected the picture of himself consulting the "quotations, words, phrases, et cetera," of his unabridged "WEBSTER."

The average reader who pays as much as his more cultured brother for the privilege of reading, cannot be supposed to relish interpolations of words and sentences in Greek, Latin, French, German or Russian. This style of affectation exhibits the profound linguistic accomplishments of the writer, or demonstrates his possession of a lexicon; but the reader is entitled to his opinion of both the man and his methods. Of true learning naught but words of high appreciation can be said; but it should be wedded to simplicity, like GLADSTONE to his ax. We love the naturalness, simplicity, purity of purpose, the ingeniousness of child-life, and we admire the corresponding qualities in the man.

MEDICAL NEWS.

PROGRAM OF THE MICHIGAN STATE MEDICAL SOCIETY MEETING AT DETROIT, MAY 5 AND 6, 1898.

GENERAL SESSION.

First Day, Thursday, May 5.

9 o'clock, A. M., local time.

(1) Call to Order by the President,	Joseph B. Griswold
(2) Opening Prayer,	Reverend John Reid, D. D.
(3) Address of Welcome,	Honorable Wm. C. Maybury
(4) Report of Executive Committee,	E. S. Sherrill, Chairman

(5) Annual Report of Secretary Collins H. Johnston, Treasurer Charles E. Hooker, and Publication Committee, Collins H. Johnson, Chairman.
(6) First Report of Committee on Admissions, Leavitt S. Griswold, Chairman
(7) Annual Report of Committee on Necrology, W. F. Busby, Chairman
(8) Report of Special Committees.
(9) Miscellaneous Business, including Nominations for President, Vicepresident, and Secretary.
(10) Annual Addresses:
  (*a*) "Conservatism in Abdominal and Gynecic Surgery," Howard W. Longyear, Detroit, Orator of Section of Obstetrics and Gynecology
  (*b*) "The Relation of Anatomy to Surgery and Medicine," William Fuller, Grand Rapids, Orator of Section on Surgery and Ophthalmology
(11) Adjournment.

JOINT SESSION OF THE THREE SECTIONS.

FIRST DAY, THURSDAY, MAY 5.

2 o'clock P. M., local time.

(1) Septic Diseases of the Abdomen and Pelvis:
  (*a*) Etiology, ... Charles McClintock, Detroit
  (*b*) The Blood, ... Herbert M. King, Grand Rapids
  (*c*) Medical Treatment, . . . H. B. Osborne, Kalamazoo; Hugh McColl, Lapeer
  (*d*) Surgical Treatment, . . Charles B. Nancrede, Ann Arbor; William F. Metcalf, Detroit
  (*e*) Discussion, . . . William T. Dodge, Big Rapids; Robert W. Erwin, Bay City
(2) Annual Address, "The Influence of Medical Men on Public Affairs," S. C. J. Ostrom, Saginaw, Orator of Section on General Medicine.
(3) Adjournment.

GENERAL SESSION.

FIRST DAY, THURSDAY, MAY 5.

8 o'clock P. M., local time.

(1) Annual Address, "Where Are the Nine?" Joseph B. Griswold, Grand Rapids, President Michigan State Medical Society.
(2) Adjournment to Reception at 9 P. M., in Harmonie Hall, given to the Members of the Society and their Ladies by—

Doctor and Mrs. J. H. Carstens
Doctor and Mrs. Leartus Connor
Doctor and Mrs. George E. Frothingham
Doctor and Mrs. Herman Kiefer
Doctor and Mrs. E. W. Jenks
Doctor and Mrs. Theodore A. McGraw
Doctor and Mrs. Donald Maclean
Doctor Ernest L. Shurly
Doctor and Mrs. Eugene Smith
Doctor and Mrs. H. O. Walker
Doctor and Mrs. H. C. Wyman
Doctor and Mrs. D. LaFerté

(3) Miscellaneous Entertainment after the Reception

SECTION ON GENERAL MEDICINE.

SECOND DAY, FRIDAY, MAY 6.

9 o'clock A. M., local time.

(1) Exhibition of Pathological Specimens, William Fuller, Grand Rapids
(2) (*a*) The Disinfection of Rooms,
  (*b*) The Etiology of Yellow Fever, . . F. G. Novy, Ann Arbor

(3) Chronic Dyspepsia and Chronic Catarrh of the Stomach, C. G. Aaron, Detroit
(4) Missing Links in the Chemical Examination of the Blood, A. W. Crane, Kalamazoo
(5) Vitality and its Relation to Therapeutics, W. J. Herdman, Ann Arbor
(6) Infantile Scurvy in Michigan, C. G. Jennings, Detroit
(7) Chemistry of Leucocytes, V. C. Vaughan, Ann Arbor
(8) Disease of the Seminal Vesicles, F. W. Robbins, Detroit
(9) Adjournment.

2 o'clock P. M., local time.

(1) Election of Chairman.
(2) Epidemic Jaundice, E. H. Pomeroy, Calumet
(3) Sleeplessness, its Cause and Treatment, E S. Pettijohn, Alma
(4) Sensory Nerve Endings in Striped Muscles, G. C. Huber, Ann Arbor
(5) Syphilis of the Nervous System, C. W. Hitchcock, Detroit
(6) Vapor Massage in the Treatment of Respiratory and Aural Affections, H. M. Dunlap, Battle Creek
(7) The Minute Pathology of Acute Pancreatitis, A. S. Warthin, Ann Arbor
(8) Antitoxin and Intubation, with a Report of 100 Cases, B. R. Shurly, Detroit
(9) Saline Cathartics, A. R. Cushny, Ann Arbor
(10) Some Results of the Administration of the Thyroid Extract in the Red and White Corpuscles and Hemoglobin in Cases of Anemia Associated with Melancholia, Samuel Bell, Newberry
(11) Adjournment.

SECTION ON SURGERY AND OPHTHALMOLOGY.

SECOND DAY, FRIDAY, MAY 6.

9 o'clock A. M., local time.

(1) Battini's Operation, Theodore A. McGraw, Detroit
(2) Nephrectomy, J. H. Carstens, Detroit
(3) May a Rapid Pulse in Appendicitis Contraindicate Operation? Fritz Maass, Detroit
(4) Reflections on the Treatment of Appendicitis, S. C. Graves, Grand Rapids
(5) Intestinal Obstruction, H. O. Walker, Detroit
(6) Some Remarks on the Practice of Surgery, F. B. Walker, Detroit
(7) Adjournment.

2 o'clock P. M., local time.

(1) Election of Chairman,
(2) Transillumination of the Stomach and Demonstration on the Living Person, Charles D. Aaron, Detroit
(3) The Four Tonsils; Some Things Experience has Taught Me, W. F. Strangways, Flint
(4) Radical Cure of Hernia by the Fowler Method, with Report of Cases, H. O. Walker, Detroit
(5) Some Cases of Brain Surgery, I. N. Brainard, Alma
(6) Adjournment.

SECTION ON OBSTETRICS AND GYNECOLOGY.

SECOND DAY, FRIDAY, MAY 6.

9 o'clock A. M., local time.

(1) Microscopy of the Endometrium in Carcinoma, Collins H. Johnston, Grand Rapids
(2) Report of Cases, James G. Lynds, Ann Arbor

(3) Practical Value of Proper Diagnosis of Presentation in Instrumental Delivery, A. N. Collins, Detroit
(4) Some Anomalies of the Kidneys, J. Playfair McMurrich, Ann Arbor
(5) Adjournment.

2 o'clock P. M., local time.

(1) Election of Chairman.
(2) Kraurosis Vulvæ . . . J. A. Porter, Brooklyn, Michigan
(3) Physical Training an Essential Factor in the Radical Curative Treatment of Women, ... J. H. Kellogg, Battle Creek
(4) Ergot Aseptic, ... E. M. Houghton, Detroit
(5) Adjournment.

THE AMERICAN MEDICAL ASSOCIATION.

The annual meeting of this organization will be held in Denver, Colorodo, on Tuesday, Wednesday, Thursday and Friday, June 7, 8, 9 and 10. The Presidential Address will be delivered by Doctor George M. Sternberg; the Address in Medicine by Doctor J. H. Musser; and the Address in Surgery by Doctor J. B. Murphy. The orator in State Medicine has not yet been announced. Papers discussing every phase of medicine and surgery will be presented in the various sections. The social features of the occasion, which are planned on a broad scale, are embraced in the following count: *Monday:* Banquet to the American Medical Editors in the evening, tendered by the Denver physicians. *Tuesday:* Trolley-car ride to the visiting ladies in the afternoon; sectional dinners in the evening. *Wednesday:* General reception at Brown's Palace Hotel in the evening. *Thursday:* The ladies will be escorted to Fort Logan or the Country Club in the afternoon; in the evening receptions will be tendered by the Denver and Arapahoe Medical Society at the home of President Hershey, and also at the homes of several other citizens and clubs. *Friday:* A trip around the Loop or to Las Vegas, New Mexico. *Saturday:* The association will be entertained by the physicians of Colorado Springs. The hotel and railroad rates will be reasonable, and the profession of Michigan should be well represented at the meeting.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

The fifty-fourth annual meeting of this organization will be held in Saint Louis, Missouri, May 13, 1898. Doctor J. T. Eskridge, of Denver, Colorado, will deliver the annual address, the subject of which is "The Mutual Relations of the Alienist and Neurologist in the "Study of Psychiatry and Neurology." The Southern hotel will be headquarters for the association. The Secretary, Doctor C. B. Burr, announces the following partial list of papers: "A Case of Sleep-Talking," D. R. Burrell, M. D.; "Ephemeral Mania," T. J. W. Burgess, M. D.; "Does the Loco-Weed Produce Insanity," C. W. Pilgrim, M. D.; "Thyroids in Insanity," B. W. Stone, M. D.; "The Nerve-Cell Changes in Somatic Diseases," Aug. Hoch, M. D.; "Practical Methods in Physiological Chemistry," . H. Hutchings, M. D.; "The Judicious Training of Neurotic Children an aid to the Prophylaxis of Insanity," D. R. Brower, M. D.; "A Short Study in Psychic Phenomena," H. C. Wyman, M. D.; "Folk-Lore in Insanity," Henry M. Hurd, M. D.; "Further Studies of Insanity Following Surgical Operations," Richard Dewey, M. D.; "Hospitals for Acute Cases," Wm. M. Edwards, M. D.; "Asylums versus Hospitals," J. Russell, M. D.; "Insanity Defined on the Basis of Disease," C. H. Hughes, M. D.; "The Scientific Border-Line between Sanity and Insanity," E. C. Runge, M. D.; "Insanity, So-called, as a Neurosis," C. Gapen, M. D. ; "Clinical Resemblances in Neurasthenia, Hysterical Insanity, and some Forms of Circular Insanity," E. A. Christian, M. D.; "Simple Melancholia," John Punton, M. D.; "Syphilitic Dementia," C. R. Woodson, M. D.; "Insanity and Homicide," H. E. Allison, M. D.; "Sub-Conscious Homicide—Their Physiological Psychology," C. P. Bancroft, M. D.; "Psychical Epilepsy in its Medico-Legal Relations," C. H. Hughes, M. D.; "Occupation in the Treatment of the Insane," Frank C. Hoyt, M. D.; "Better Care of the Chronic Insane," H. A. Gilman, M. D.; "The Boarding-out System in America—Why not?" G. Alder Blumer, M. D.; "The Wisconsin County Care System," W. B. Lyman, M. D.; "State versus County Care for the Insane," B. D. Eastman, M. D.; "The Value of Hospital Records," Wm. Mabon, M. D.; "Hospital Treatment for Acute Insanity," A. B. Richardson, M. D. Papers by: O. R. Long, M. D., H. M. Bannister, M. D., G. H. Rohe, M. D., W. E. Dold, M. D., the titles of which are not announced, are also promised.

PROGRAM OF THE WAYNE COUNTY MEDICAL SOCIETY FOR MAY.

THE meetings of this society will be held in the Bamlet building, corner of Griswold and Grand River, commencing April 28.

May 5—There will be no meeting. State Medical Society meets in Detroit May 5 and 6.

May 12—Doctor W. P. Manton will read a paper on the subject of "Lacerations of the Cervix," and Doctor W. J. Cree will read a paper on the subject of "Lacerations of the Perineum."

May 19—This session will be held in the Turkish room of the Cadillac Hotel. Medico-legal questions will be discussed by the ablest men in the city. Notice of meeting hereafter.

May 26—Doctor S. E. Sanderson will read a paper on the subject of "Senile Gangrene," Doctor E. B. Smith will read a paper on the subject of "Surgical Tuberculosis of the Skin and External Organs," and Doctor H. O. Walker will read a paper on the subject of "Surgical Tuberculosis of the Bones." Election of delegates to the Americal Medical Association.

CLIMATE AND HEALTH IN MICHIGAN DURING MARCH.

THE unusual moderation in the climatic conditions in this state during the month of March, 1898, is shown by the last report of the State Board o Health, through its secretary, Doctor Henry B. Baker. "At the State Capito for the month of March, 1898, compared with the average for March in th twelve years, 1886–1897, the prevailing direction of the wind was southea (instead of northwest), the velocity was .4 of a mile per hour less, the temper ture was 7.58 degrees higher, the rainfall was 1.27 inches more, the absolu humidity was more, the relative humidty less, the day ozone more, the nigh ozone less and the depth of water in the observation well one inch less." Base upon 314 reports received during that month (five weeks ending April 2), the diseases arranged in the order of their greatest prevalence were: Rheumatism, influenza, neuralgia, bronchitis, tonsillitis, pneumonia, pleuritis, inflammation of kidney, diarrhea, pulmonary consumption, intermittent fever, erysipelas, measles, inflammation of bowels, remittent fever, typhoid fever including enteric and typho-malarial, whooping-cough, dysentery, puerperal fever, scarlet fever, inflammation of brain, cholera morbus, diphtheria, cerebro-spinal meningitis, membranous croup, cholera infantum and small-pox. "For the month of March, 1898, compared with the average for March in the twelve years, 1886–1897, diphtheria, scarlet fever, whooping-cough, consumption, remittent fever, intermittent fever and pneumonia were less prevalent. (The decrease in scarlet fever has existed since April, 1896.) Including reports by regular observers and others, consumption was reported present in Michigan in the month of March, 1898, in one hundred and thirty-seven places, measles at one hundred places, scarlet fever at sixty-nine places, typhoid fever at sixty-two places, diphtheria at fifty-two places, whooping-cough at twenty-two places and small-pox at two places. Reports from all sources show consumption reported at twenty places more, measles at fifteen places more, scarlet fever at one place more, typhoid fever at nine places more, diphtheria at eight places less, whooping-cough at five places less and small-pox at one place more in the month of March, 1898, than in the preceding month."

THE GOAL OF PROFESSIONAL LIFE.

THE annual commencement exercises of the Michigan College of Medicine and Surgery at Detroit were held March 24, 1898, at the Empire Theatre. The graduates from Michigan were J. Copeland Belcher, J. Franklin Carrow, Carrie Hitchcock Edwards, William Francis Estell, William Vincent Hausherr, Vernon Jay Hooper, Edwin A. McManus, J. Wesley Reid and William Isaac Whittaker; from Ohio, J. Whittaker Cannon and William W. Evem; from Ontario, Frank Elmer Cameron, Jos. Allen Mansfield Clark, Garnet Patrick Hyndman, Job. R. W. Kirton and Murray Watson; from Manitoba, Peter McMurchie; from Poland, Noah Ephraim Aronstamon. The addresses were delivered by Doctors M. R. Morden, of Adrian, and W. C. Stevens, of Detroit. The graduates were banqueted at the Cadillac in the evening.

MAY MEETINGS OF NATIONAL MEDICAL SOCIETIES.

THE American Gastro-Enterological Association, Washington, District of Columbia, 3; Association of American Physicians, Washington, District of Columbia, 3–5; American Neurological Association, Washington, District of Columbia, 4–6; American Medico-Psychological Association, Saint Louis, Missouri, 10–13; American Laryngological, Rhinological and Otological Association, Pittsburg, Pennsylvania, 11–12; American Laryngological Association, Brooklyn, New York, 16–18; American Orthopedic Association, Boston, Massachusetts, 17–19; American Gynecological Society, Boston, Massachusetts, 24; American Dermatological Society, New York City, 31–June 2; International Association of Railway Surgeons, Toronto, Canada, date not specified.

MINOR INTELLIGENCE.

MADEMOISELLE MARGUERITE BOTTARD, for fifty years nurse and superintendent in the Salpetriere Hospital at Paris, has been decorated with the cross of the Legion of Honor. She has been a faithful attendant, and thoroughly deserves the distinguishing insignia accorded her. Mademoiselle's services were highly appreciated by the late Professor Charcot.

THERE is a bill before Congress which contemplates increasing the number of medical officers in the army and authorizing the employment of contract surgeons in emergencies. Provision is made for the appointment of fifteen additional assistant surgeons, and the surgeon-general of the army is empowered to engage as many of the other class as may be necessary, the salary to be $150 a month.

THE success of the sanitary congress which is to be held in Dublin from August 18 to 23 of the present year, is already assured. It will be convened under the auspices of the Royal Institute of Public Health. An exhibit of the various apparatus designed to facilitate modern sanitation will be a feature of the occasion. The social amenities will partake of the nature of a ball given by the Lord Mayor, and the customary banquet, lawn parties, excursions, et cetera.

THE Cornell University Medical College will be the name of a new medical school to be founded at New York City and operated in conjunction with Cornell University. It is the outgrowth of a disagreement between the council of the New York University and the faculty of its department of medicine. Oliver H. Payne will furnish one-half to one million dollars to establish the school, the staff will comprise about fifty members, and Doctor W. M. Polk will be the dean.

THE Kansas medical-practice law recently suffered an adverse ruling by the attorney-general of that commonwealth. The state board of health, for the purpose of determining the efficiency of the legislative edict designed to squelch quackery, applied for a decision regarding the legality of magnetic healers, hypnotists, divine healers, and various other charlatan sects practicing the vocation of medicine under the tenets of the act. The question was gravely considered by the distinguished referee and the opinion rendered that the law obtained against all forms of quackery except the divine healers, but that inasmuch as this guild attribute their power to Jehovah, prosecution would come to naught, as the regulation of the rights and privileges of Jehovah is beyond the jurisdiction of the Kansas statutes.

THE Western Ophthalmologic and Otolaryngologic Association held its third annual meeting in Chicago on April 7 and 8, under the presidency of Doctor B. E. Fryer, of Kansas City. Doctor F. Henrotin, president of the Chicago Medical Society, delivered the address of welcome, and Doctor A. Alt, of Saint Louis, responded for the association. The Ophthalmologic and Otolaryngologic Sections each held five separate and two joint sessions, many papers of interest being read and discussed. The last joint session was occupied with the exhibition of clinical cases. The following officers were elected for the ensuing year: President, Doctor J. Elliott Colburn, Chicago; first vicepresident, Doctor W. Scheppegrel, New Orleans; second vicepresident, Doctor Casey A. Wood, Chicago; third vicepresident, Doctor H. Gifford, Omaha, Nebraska; treasurer, Doctor W. L. Dayton, Lincoln, Nebraska; secretary, Doctor P. M. Rumbold, Saint Louis, Missouri. New Orleans was unanimously selected the place at which the next meeting will be held. It will occur just before the Mardi Gras of 1899, thus allowing the members to conclude their scientific session with the advent of the carnival season.

RECENT PUBLICATIONS.

REVIEWS.

PRACTICAL THERAPEUTICS.*

A STATEMENT of the purpose of this book is scarcely necessary at this time. It has already passed through five editions, the fifth having been unusually large. The sixth edition has now appeared only seven years after the first one and in the same month. Such popularity reflects excellence and almost precludes a critical review. The work is intended for both physicians and undergraduates. The author believes that most textbooks of this class are beyond the student. He has seemed to see in them and in many medical practitioners a desire for the practical if not a scorn for the philosophical and scientific. He has therefore repudiated the usual classification of remedies according to their classic relationship, summing up this knowledge in the statement that "at present the state of pharmacology is so unsettled that a true classification is impossible." The work is alphabetically arranged and is practically a reference dictionary of therapeutics. It is a treatise of the art rather than of the science of this branch of medicine. In this respect the work is up to date. His ideas concerning chloroform and on many other subjects coincide with our own. We do regard as a serious blemish, however, the mercenary-like favoritism exhibited in certain places, as a dignified work should have no room for this. The publishers have as usual furnished a very readable-looking and neatly-bound volume.

*By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, et cetera. With special chapters by Doctors George E. de Schweinitz, Edward Martin and Barton C. Hirst. Sixth edition, thoroughly revised and largely rewritten. In one octavo volume of 756 pages. Cloth, $3.75; leather, $4.75. Lea Brothers & Company, Publishers, Philadelphia and New York.

SURGICAL COMPLICATIONS AND SEQUELS OF TYPHOID FEVER.*

A CORRECT idea of the scope of this valuable contribution can be given in no better way than by citing the head-lines of its twenty-one chapters, which, following the introduction, are as follows: "Pathology of the Surgical Complications and Sequels of Typhoid Fever;" "Typhoid Gangrene;" "Typhoid Affections of the Joints;" "Typhoid Affections of the Bones;" "Typhoid Abscesses;" "Typhoid Hematomata;" "Cerebral Complications of Typhoid Fever;" "Otitis Media in Typhoid Fever;" "Typhoid Parotitis;" "Typhoid Affections of the Thyroid Gland;" "Typhoid Affections of the Larynx;" "Typhoid Affections of the Pleura, Lungs and Heart;" "Typhoid Affections of the Esophagus and Stomach;" "Intestinal Perforation in Typhoid Fever;"

"Typhoid Affections of the Liver and Gall-Bladder;" "Typhoid Affections of the Spleen;" "Typhoid Affections of the Sexual Organs;" "Specific Mixed Infections in Typhoid Fever;" "Ocular Complications of Typhoid Fever;" "Conclusions;" "Appendix—The Toner Lecture;" "Index." The illustrations include five large and well executed plates besides several diagrams and smaller figures. As this is the only exisiting work embracing the whole subject of the "Surgical Complications and Sequels of Typhoid Fever" its value will be apparent to specialists as well as to the general surgeon and physician. The publisher's work is of his usual high standard.

*By William W. Keen, M. D., L. L. D., Professor of the Principles of Surgery and Clinical Surgery, Jefferson Medical College, Philadelphia; Corresponding Member of the Société de Chirurgie, Paris; Honorary Member of the Société Belge de Chirurgie, et cetera. Octavo volume of nearly 400 pages. Cloth, $3.00 net. W. B. Saunders, Philadelphia.

TEXTBOOK OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY.*

We agree with the author in believing the synthetic classification of drugs, based upon therapeutic affinities, to furnish the most philosophical and rational arrangement. Such a treatise seems best calculated to assist the student in properly founding and organizing his knowledge of this subject. The work will be found also a practical reference book for the practitioner. It is recent, comprehensive and accurate.

*By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Chicago; Professor of Materia Medica and Therapeutics, Northwestern University Woman's Medical School; Attending Physician to Cook County Hospital; Member of American Medical Association, Illinois State Medical Society, Chicago Medical Society, Chicago Pathological Society, and Fellow of Chicago Academy of Medicine, et cetera. Price $4.00 net. Philadelphia: W. B. Saunders.

ATLAS OF INTERNAL MEDICINE AND CLINICAL DIAGNOSIS.*

This volume is the first publication in the Lehmann series of Medical Hand-atlases that we have seen. It is an illustrated work on the methods of clinical investigation with an epitome of clinical diagnosis and of special pathology and treatment of internal diseases. There is no lack of books on every known aspect of clinical medicine, but none excel this in the accuracy, clearness and beauty of the illustrations. It will serve not only as an aid to clinical observation but also as a partial substitute for it. Scarcely can a work be recommended with less fear of disappointment. We have not seen the original and yet we venture to say that it has not suffered in the translation. The publisher has rendered the profession a great service in presenting this embellished work at so modest a price.

*By Doctor Christfried Jakob, formerly First Assistant in the Medical Clinic at Erlangen. Authorized Translation from the German. Edited by Augustus A. Eshner, M. D., Professor of Clinical Medicine in the Philadelphia Polyclinic; Physician to the Philadelphia Hospital, et cetera. With 182 colored illustrations upon 68 plates, and 64 illustrations in the text. Price, $3.00 net. W. B. Saunders, Philadelphia.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

WHERE ARE THE NINE?*

By JOSEPH B. GRISWOLD, M. D., Grand Rapids, Michigan.

[Published in The Physician and Surgeon exclusively.]

In the announcement of this, the thirty-third annual meeting of our society, sent out by its secretary, you were invited to come to Detroit to hear "Osborne tell stories and Griswold sing." You have listened to Osborne this afternoon; I trust we may hear from him further before the session closes.

I had a friend, a young minister, who was a popular preacher in a small western city. He was an enthusiastic lover of baseball, a member of the club in the town in which he lived, one of its best players, and played in the match games. For this he was severely criticized by some over-nice nembers of his congregation, and in order to set himself right, announced one Sabbath morning that on the next Sunday he would preach a sermon on baseball. The day arrived and found the church crowded with expectant listeners. When my friend arose to pronounce his text, the audience was somewhat startled to hear him say, "Where are the Nine?"

In thinking over various topics before determining what the nature of my discourse should be tonight, and the theme of the so-called "annual address," these words occurred to me, and I have chosen them as a text, for

> "Perhaps what may turn out a song,
> Perhaps may turn out a sermon."

During the past year, *the status quo* of the praticing physician, so far as his social position is concerned, has been determined by the English courts.

It has been declared that medicine is a vocation, is a trade, and it follows of necessity that the physician is a tradesman. This of course is only the dictum of an English jurist in a country where

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*President's Annual Address before the Michigan State Medical Society at the Detroit meeting.

"A king can mak' a belted knight,
A Marquis, Duke and a' that,"

and establish the social position of his people. In our land, a man may secure the highest station, social as well as educational and political, by his own efforts; and what is true of an individual is true of a class and of a profession. A man may, by example and exertion, elevate the class to which he belongs to a higher plane intellectually, morally, socially; or by his conduct he may bring reproach upon it and aid in its decline. The Standard dictionary defines a trade, "A business learned or carried on for subsistence or profit; particularly a skilled or specialized handicraft, the occupation of an artisan"; and profession, "An occupation that properly involves a liberal education or its equivalent, and mental rather than manual labor, especially one of the so-called learned professions; hence, any calling or occupation involving special mental and other attainments."

In his primitive state, man was subject to few diseases, though he was exposed to the accidents common to all living beings, and to wounds of various kinds not accidental, for he was constantly at war with his fellow men. To dress these wounds, to adjust broken bones and to assist in the repair of these solutions of continuity would naturally be the first object of his attention; and we find that while medicine was enveloped in ignorance and superstition, the art of surgery was quite highly cultivated at a very early period. From the very earliest history of the practice of medicine, the educated men, the scholars, were the physicians. It matters not whether the Greeks trace the origin of the art to the Egyptians or to the Hindoos, or from what source AESCULAPIUS derived his inspiration; it is true that even among the Greeks the history of medicine was so interwoven with mythology and the practice so mingled with mysticism, that it is impossible to separate the real from the fictitious. It is probable, however, that the AESCULAPIUS mentioned by HOMER and by HIPPOCRATES was a real personage; and that he and his two sons, MACHAON and PODALIRIUS, were the first Greek surgeons on record.

HOMER writes of MACHAON as the most distinguished surgeon at the siege of Troy; calls him the "Preserver of the Greeks," and when suffering from wounds inflicted by PARIS, says of him:

"The great MACHAON wounded in his tent,
Now wants the succour which so oft he lent";

and of PODALIRIUS that he cured the daughter of the PRINCE DAMAETHUS of a dangerous illness by bleeding her in both arms, for which service the Prince gave him the hand of his daughter with the half of his kingdom as her dower.

I suspect the social position of PODALIRIUS was established beyond readjudication by the English courts. Thus early in the history of the profession, a result of the grateful generosity of DAMAETHUS, originated the custom which has since become established that the great fees go to the surgeon, and the practice of blood-letting was popularized from that moment.

It is true that phlebotomy, as a remedy for disease, became so common a thing that it was performed by the barber, and amputations were made by blacksmiths; but these operators were specialists, they were not bound by any professional code; they were not regarded either by the profession or by the laity as physicians; they were tradesmen.

Prior to the time of HIPPOCRATES, the practice of medicine, even among the Greeks, was confined to the priests and philosophers, surrounded by superstition and blended with Pagan religion and ignorance. But this remarkable man, by his wisdom, his reasoning and his sound common sense, so far in advance of the age in which he lived, delivered it from much of the mysticism that enveloped it, planted it upon a more reasonable and scientific basis, and transformed it into a rational and sensible art. The HIPPOCRATIC oath, as a professional creed, has never been surpassed. Oh! Immaculate and inspired teacher, how few of thy professed disciples in this nineteenth century of the Christian era, with all the light and experience and civilization that two thousand years have brought us, practice so perfect a code of professional ethics!

CELSUS, styled the Roman HIPPOCRATES, was not only a scholar and a voluminous author on medical subjects, but he ranks among the most celebrated writers of antiquity. He was an ardent disciple of HIPPOCRATES and copied much from his writing; but he was also a close thinker, a reasoner, and held opinions thought out by himself. He has left on record the most valuable and concise repository of the medical learing of his time. He was by far the most famous surgeon of his day; and while we are wont to glorify the acquirements of the Greeks and Romans in the art, and to belittle their knowledge of medicine, let us recall what CELSUS did as a surgeon.

He described wounds, abscesses and ulcers with as clear distinction and treated them with as much wisdom as is used today, after eighteen hundred years of progress. He incised contused wounds, opened deep-seated abscesses, stimulated indolent ulcers and removed the hard edges from callous ones. He used arsenical paste in malignant growths and removed them with a knife. He divided fistulæ with the aid of the probe and treated them successfully. He drilled into carious bones and removed dead sequestra, curetted and packed the wound. He described different kinds of tumors and removed them. He advised that encysted or steatomous tumors be removed entire without rupturing the sac. He understood the healing of wounds by first intention, and although he did not understand the philosophy of microbic infection, he approximated the edges of his wounds as closely as possible and made some application to agglutinate them, using wine and other stimulants with his dressings. He extirpated polypi; he performed the operation for harelip and cleft palate; he excised the tonsils; he amputated the uvula, and he removed bronchocele. He performed tracheotomy; he trephined the skull, and described minutely the conditions produced by rupture of the vessels of the brain. He elevated depressed portions of bone, and used the perforator, and the chisel and mallet, and sometimes removed large areas. He described the different kinds of hernia, operated upon the strangulated form and for the radical cure of hernia. He cured hydrocele by incision, and varices by laying bare the vein, and either removing a portion between two ligatures or by applying the actual cautery. He removed hemorrhoids. In wounds of the intestines, he performed gastrorrhaphy. He diagnosed and described fractures and dislocations with considerable accuracy and treated them successfully. He performed the operation of lithotomy; and in all his major operations it is recorded that he carefully prepared his patients by abstinence from food and stimulating drinks; and this was before the birth of CHRIST, nineteen hundred years ago.

CLAUDIUS GALENUS, commonly called GALEN, was born about 130 A. D. He was also a great surgeon; even more famous than CELSUS. He performed all the operations that the sugeons before him had done, and appears to have had broader views and a stronger character than any of his predecessors. He was a very scholarly man; had traveled and studied extensively and was a voluminous writer. When he came on the stage, medicine was divided into sects. GALEN, highly educated, attached himself to none. He chose the good as he understood it from each, and so strongly did he impress his personality upon the profession of his day, that for fifteen hundred years after his time we hear but little of medical sects. All were merged in his followers and imitators. His opinions reigned supreme throughout the civilized world until within the last three hundred years. He was familiar with the variations of the pulse, and is the first great authority for all writers since his time upon the pulse as a diagnostic feature in disease. GALEN ligated the axillary and the iliac arteries, he tied the common caroted artery, and explained to those operators who in tying it failed to separate the nerve, that the resulting paralysis was due, not to compression of the arteries, but of the nerve. Had the great GALEN understood the circulation of the blood, demonstrated by HARVEY fifteen hundred years later, and been familiar with the anatomy, physiology and pathology of the nervous system, which the laboratory has revealed, even our famous surgeons of today might almost be said to stand in his shadow.

> "Am I tagging my theme to a legend?
> That were changing green turtle to mock;
> No, thank you; I've found out which wedge-end
> Is meant for the head of a block."

GALEN was an egotist and a boaster. He had an exalted opinion of himself, and manifested bitterness and contempt for his adversaries. His writings are replete with accounts of his own wonderful cases, and when writing of his return from Rome, he boasts that he wae called the "wonder speaker," the "wonder worker" while in that city. He was the physician of the EMPEROR MARCUS AURELIUS, and he played upon the credulity of that monarch as one plays upon a pipe to obtain favors and shekels. He alleged that the will and the knowledge of AESCULAPIUS were revealed to him in dreams; and he laid great stress on amulets and in critical days and on the influence of the moon and in certain formulæ compounded secretly by himself; and showed, great surgeon that he was, gross ignorance of the first principles of scientific medicine. From what his Roman biographers say of him, we may justly conclude that had there been any newspapers in his day, they would have been filled with accounts of his wonderful surgical operations; and each time he left the city it would have been heralded to the world that he was called to such and such a city in consultation because of his wide renown and his remarkable skill. And yet these same historians have left on record this criticism of his character as a blot upon fame that sixteen hundred years have not effaced, and which time cannot obliterate. He is a smaller man because of it. "The evil that men do lives after them." The indiscriminate publication of reports of surgical operations in the daily press, a thing of such common occurrence that it has ceased to excite comment among the profession, is on a level with the devices used by the tradesman to enlarge his business; and when such a report is preceded by startling and sensational headlines, the names of the operators and assistants given, and the idea conveyed that the operation is a very unusual and remarkable one, requiring the greatest skill, et cetera, and was perfectly successful, it so closely resembles a trade advertisement that one might easily be deceived into regarding it as such and used to offset the presumption of the fellow who advertises "A cure without the use of a knife," or perhaps to influence the public mind by suggestions to a more ready acquiescence in surgical procedures. Who is benefitted by these publications but the operators?

This practice is not only undignified, but it is pernicious. I am familiar with the urgent solicitations of the newspaper reporter for items and with the prurient desire of the reading public for news that is sensational, something to talk about; but setting aside the thought of the preferment such items may bring him and of the pecuniary rewards that might follow, should not every high minded physician refuse to cater to such an abnormal condition of things and to encourage such morbid mentalization?

In this respect so-called Christian Science has been a blessing to the world; and in so far as it encourages frail and susceptible humanity in the belief that correct living and healthy intellection are essential to the physical and moral well-being of mankind, it deserves the sympathy and support of our profession. Divested of its sophistries as it might be in time by intelligent and scientific discussion, it should assume its proper place in the jurisdiction of legitimate medicine. If the science of medicine has made such progress in the past few decades as we are wont to avow, from what source has the knowledge come that has rendered the art of preserving life and the conservation of health more exact, more scientific, more demonstrable? If the surgeon of today is more successful in his results, if he is enabled to remove important organs of the human body with less danger to life, and to boldly explore and manipulate cavities and tissues forbidden our ancient brethren, to whom is he indebted for the information that has rendered such operations possible? The great advancements in the art of medicine, the great achievements in the direction of perfecting medicine as a science, and elevating it above the level of a handicraft into that sphere which "properly involves a liberal education and mental rather than manual labor," have been wrought out in the laboratory by the use of the test-tube, the microscope, the culture tube, and in the study of microorganisms, and the physiology of cell development and cell function, and if that man is deemed a benefactor of his race who causes two blades of grass to grow where but one grew before, how much greater service shall be rendered to humanity, how much higher commendation should he receive who points out the way to avoid mutilation, by correcting the wayward cells as they go astray, and the method by which they may be restored to integrity and returned to duty in accordance with the economy of nature without the use of the knife. In order that medicine and surgery may reach their highest possibilities in the realm of science, it will be necessary for every practitioner to take careful notes of his cases and be ready to report them. One well authenticated and truthfully reported case occurring in the hands of a country practitioner, modest and obscure though he may be, may overturn the theory of the wisest professor in the land and change the entire current of medical thought.

The literature of medicine is enormous. "Of making many books there is no end." No one can read them all; no one need do so.

> "'Tis pleasant sure, to see one's name in print;
> A book's a book, although there's nothing in't,"

but the writer of a book is not authority, and his work is of little value, except in so far as it gives individual opinions founded upon individual research and experience. In all other respects it is merely a compilation. Our experiences are varied. If we are close observers, they are valuable both to ourselves and to each other. There are no better mediums of interchange than the medical journal and the medical society. No progressive physician can afford to neglect either, and the independent thinker, the man who reasons and studies, who uses good common sense and judgment, and worships no author or instructor, can render great service to his *confreres* and to the world at large by contributing to both.

A more liberal, preliminary education than most of us have enjoyed, before beginning the study of medicine, would militate against the decline in the social status of the profession. In these days of free schools, when many of the tradesmen, if not a majority of them, have been high school students, and have some knowledge of chemistry, electricity, anatomy and physiology, who read scientific literature and keep abreast of the discoveries of the day, it is necessary for the physician to be alert and studious, if he would maintain that high standing, that preferment of superiority, as an educated professional man, that has been the pride and the glory of our fathers in medicine; it is ours by inheritance, we cannot afford to abandon it.

The attempts at medical legislation, so far as this state is concerned, have been abortive. Little has been accomplished tending to dignify or elevate the title "Doctor of Medicine," or to protect the people of our commonwealth from becoming the prey of ignorant and parasitical pretenders. On the contrary, every medical bill presented to our state legislature has met with violent opposition from members of our own profession, and the result has finally been the legalizing of some other "pathy" as a so-called independent school of medicine. Any bill to regulate the practice of medicine emanating from the profession itself, is looked upon with suspicion by the average legislator; and one only need turn to the city of Boston today and read the history of the bill before the Massachusetts legislature last winter, to realize how futile is every attempt to present a united front to push any legislation in the interest of scientific medicine. The standing of the medical practitioner cannot be changed by legislation, only in so far as a license places the ignoramus on a par with the scholar. Electricity, hypnotic suggestion, christian science, osteopathy, *et id*, have broadened the field of medical research, and each of these is a branch of the parent tree, scientific medicine. It will not satisfy to ridicule them, they cannot be ignored; they must be investigated and explained, their vagaries eliminated, and the truth accepted as a part of the eternal plan of nature that will never be fully understood by finite man.

There is a court of experience before which we shall one and all be summoned to appear sooner or later, not to sing songs or to tell stories, but as witnesses; and we should be prepared to give an opinion founded upon general observation and individual introspection both as to the state of the medical profession and the social rank of the physician himself. DOCTOR BENJAMIN RUSH, American scholar, physician, statesman, near the close of his long and brilliant career said to a friend, "Medicine without principles is an humble art and a degrading occupation; but directed by principles, the only sure guide to a safe and successful practice, it imparts the highest elevation to the intellectual and moral development of man."

One of the historic naval engagements of the world occurred in the South Pacific Ocean in 1879; between Chilian and Peruvian ironclads. The Peruvian fleet was commanded by ADMIRAL GRAU, whose head was shot away while he was giving his orders from the conning tower; but so gallantly had he defended his ship and so boldly and fearlessly did he wage his battle, that to this day at every general muster and at every monthly inspection of the Peruvian navy, the first name called is ADMIRAL MIGUEL GRAU. With profound solemnity an officer steps forward, lifts his hat, points upward and answers, "Absent, but accounted for. He is with the heroes." It would be an inspiration to our younger brothers in the profession if, as the roll of witnesses is called before the bar of this court of experience, and one after another we fail to respond to our names, some member of this society arising in his place should make answer, "Absent, but recorded."

MEMOIRS.

CHRONIC DYSPEPSIA.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

ONE of the striking things in the present status of medical studies is the fact that terms which stood for much in the profession are giving place to more exact and more restricted designations. It is a characteristic of the whole history of medicine that its terminology, excluding such as have reference to the elementary facts of physiology and anatomy, is in constant flux. Scientific study demands that the terms in use shall have definite meaning, and that they shall stand for something clear and recognizable. One of the most frequent terms in the practice and in the clinical experience of the average physician is that of chronic dyspepsia. It stands for, if it does not atone for, a multitude of diagnostic sins, simply because it is applied to many various forms of the diseases and for divergent conditions. The designation of dyspepsia is often made for want of recognizing the special features involved; but in all scientific fairness, these should be considered. It is a convenient general designation, behind which hides often not only an easy-going professional conscience, but also a lack of scientific precision. Either of these, to be sure, is a sin on the part of the practitioner and a source of injury to the patient. I am free to confess, it is hard for many a general practitioner to differentiate the manifold things that lurk behind disturbance of the digestive processes such as we roughly denominate chronic dyspepsia. It may often challenge him to unravel the complex of phenomena which constitute the pathological condition he finds. But, however difficult it may be for him, we can be sure he has no immunity from the labor which a circumspect examination entails and which a scrupulous physician is always ready to address himself to, patiently and studiously.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY, at Detroit.

It is absolutely necessary to understand that the origin of digestive difficulties is for the most part traceable to the ignoring of the following items: Choice of foods, quantity of the food taken, quality of food and manner of appropriation. Certain foods are easily digested and still, in quantities larger than the chemical reaction or physical allows, they become sources of mischief. The same remark, of course, applies to foods that are inadequately prepared. But, taken altogether, it is quite impossible to say what is always digestible and what is not. Much, perhaps everything, depends on the capacity of the stomach and on its motility, and each case requires an adjustment with respect to its individual condition and diagnosis. The general rule may, however, be laid down that such foods are digestible as are attacked by the gastric juice without burdening the stomach and are emptied into the intestines in proper time without taxing the latter. The peristaltic action of the intestines, by the way, must be inhibited as little as possible. Ice-cream and ice-water are, on that account, much to be guarded against in certain cases, for they may suspend, by chilling, the peristaltic action of the intestines and produce constipation. Another difficulty which ice-cream produces must be mentioned here. It often helps to drive insufficiently prepared food from the stomach into the intestines and thereby injures the latter. The mucous membrane of the stomach cannot be protected too much. Strong alcohol, aside of affecting the pharynx and the esophagus, is directly injurious to the delicate membrane that lines the stomach and so to an important function within the normal process of assimilation.

The sensation of fullness and of pressure takes place usually soon after eating, and sometimes even at eating. The distressful feeling increases for a certain length of time, and when it has reached its maximum it gradually subsides. At times the weight of clothes begins to be painful and relief is sought by the opening of garments at the region of the stomach. Along with a feeling of depression, there may be a sense of heat in the head and of coldness in the feet. But most characteristic is the relief that belching seems to afford. It is so marked that dyspeptics are known to attempt to bring about eructations speedily and repeatedly by means of the contraction of the diaphragm and of the abdominal muscles. This belching may take place during the entire time that digestion goes on; it may often cease after eating, and sometimes it continues even when the stomach is empty. It is usual with such patients to ascribe the belching to certain kinds of food, and they allege that this belching produces a certain sensation. Still, the facts are that, only in rare cases do chronic dyspeptics evacuate other than odorless gases in eructation. But it is not infrequent that fluids arise in the belching and, in rare instances, also solid contents from the stomach into the mouth. But these latter are usually swallowed. The pyrosis which dyspeptics complain of, that is, a burning sensation in the epigastrium, rises upward behind the sternum, and sometimes into the esophagus and even into the mouth. All this is due without doubt to the presence of acids in the stomach. Simple dyspeptics do not vomit, as a rule, except some dietary error has been committed.

Another observable experience of dyspeptics, which I should mention, is the phenomenon of gurgling in the intestines, which they feel considerably. The gurgling can often be heard at a considerable distance. But all this is not to be charged to the food which is supposedly hastening through the digestive tract. The fluid and gas contents of the stomach probably reach the intestines too soon and are pushed forward and the stomach receives a motory impulse from the mass of food and drink and imparts it to the intestines.

I said above that the patient who has the misfortune of having compromised his stomach through indiscretion, will find that he will eventually have to meet unsurmised secondary difficulties. I may now add that in so-called chronic dyspepsia the gastric phenomena which obtrude themselves as independent symptoms mingle with general disturbances. The most frequent of these is intestinal disturbance. The patient feels unpleasant sensations throughout the process of digestion, from the reception of foods until evacuation, according to the kind of food and fluid he has taken. But the oppression will become twofold. It will result directly from his condition and it will be aggravated by his acquired temperament, due to the attention he gives to his trouble. He will persuade himself that a certain kind of food he was formerly in the habit of taking is chargeable with his difficulty, or he will allege that the manner of its preparation is objectionable. It will thus come to pass that he will unconsciously but none the less steadily restrict for himself the number of available and digestible foods, and it is my experience that chronic dyspeptics suffer very materially—in addition to their organic ailment—from being underfed. I have come across some well-fed dyspeptics, but I prefer to regard these (to be exact) as overfed and their condition as due to the same extravagant caution on the opposite side.

There can be no functional disturbance of the stomach without presupposing that there is present some correlative pathological condition of one kind or another. It may lie in the motor activity of the gastric walls or in the anatomic condition of the mucous membrane of the stomach or in anomalies of gastric secretion and in a number of other possibilities. All of these an accurate diagnosis will have to reckon with, if the therapeutics decided on shall be of any curative avail, or shall be defensible in the presence of our professional conscience. There is another aspect of the matter which—it seems to me—makes a more discriminating attention upon these affections peremptory. For I think it is borne out by statistics and by the logic of physiology that gastric disturbances are the most frequent difficulties for which physicians are consulted, and that the cases of this kind increase in number, intensity and variety, along with the advance of civilization, refinement, diversity of diet and strain and stress of our organism. I cite the one instance of atony or—as Boas calls it—myasthenia ventriculi, the forced enlargement of gastric capacity through the habit of excessive eating or the massing of nonnutritious foods or drink. This, it is quite reasonable, affects the mechanical sufficiency of the motor walls of the stomach. In a similar way, food insufficient in quality and quantity may cause a deprecation of the stomach-muscles as to motor power. Rosenbach goes so far as to substitute in certain cases for so clear a term as "dilatation" the term "mechanical sufficiency", simply because he believes that the latter is more relevant and the former has too large a compass for working utility. I need not add, of course, that the relation of the size of the stomach and the elasticity of its walls is frequently disproportionate, and that this disproportionateness constitues an important phase in the digestive process.

Merely for the sake of emphasizing the point I shall recall a number of divergent conditions which are equally, though legitimately, covered by the proper term, chronic dyspepsia.

Besides such gastric disturbances as are secondary and appear in constitutional diseases, as in kidney, liver and heart disorders, there are disturbances of the digestive functions of the stomach with respect to its secretions, its resorptive qualities, its motility and peristaltic action and its sensory responsiveness. Acute catarrh of the stomach and mucoid degeneration of the gastric glands, are commonly misnamed dyspepsia. With reference to chronic catarrh of the stomach, surcharge of mucus and reduction of acids, LEUBE cautions that a careful differentiation be made between it and "dyspepsia in general." So also ulcer and erosion of the stomach precipitate conditions which are commonly called dyspeptic. The characteristics of these ailments, local pain and excessive acidity, however, may be referable to gastric as much as to ulcerous and eroded conditions. The symptoms of dilatation and atony often lead the practitioner to identify them for dyspepsia. But in the one case we have an obstruction at the pylorus, in the other case we have a nonresistance of the stomach-muscles. Gastroptosis and enteroptosis are superinduced by local and reflex causes which must be recognized, if the general term of dyspepsia, which is usually applied to the distress they produce, shall have any meaning. It will be readily admitted that they produce abnormities that refer to the stomach as much as to the intestines. Hyperchlorhydria, hypochlorhydria and anchlorhydria of the stomach are indicants of the conditions which the common term of dyspepsia cannot adequately connote. It does not require profound acquaintance with the etiology of gastric disorders to entitle us to the declaration that an abnormal chemical reaction is a respectable datum which a diagnostician cannot afford to ignore. We must make sure that the condition we find.is either primary or secondary, just as we must determine that it is either gastric or intestinal. It requires no more than a word to plead for acylia gastrica of EINHORN, the atrophy of the gastric glands, which gives symptoms which must be differentiated from those of vulgar dyspepsia, while this in turn should be distinguished from similar conditions due to neurotic causes. The opposite of the latter, gastrosucorrhea, is certainly a dyspeptic condition of a most special character. Cancer of the stomach is another instance of proverbial dyspepsia which requires expert discrimination in order to be recognized.

These varied ailments manifest themselves similarly. They often have a depressing effect upon the temperament, more or less intense in degree and usually peculiar in kind. The mental state ranges from every moderate grade of depression almost up to hypochondria. This is marked in chronic stomach disease in which a mentally abnormal (and I might almost say, a morally abnormal) condition ensues, which often becomes a burden to the patient and to the household that has the care of him. The phenomena of overfeeding through a preference of foods within self-chosen limits, are characteristics incident to persistent gastric troubles. But, whatever the specific gastric difficulties may be, it appears to be the fate of the stomach to suffer in addition to its organic troubles more or less frequently and more or less directly through mental depreciation. Our present terminology, however, does not make a distinction between such disorders of the stomach as are free from depressed spirit and such as are not. Still popular usage of the term dyspepsia makes much of this matter, and we must admit popular usage is not entirely without some respectable sense, even if it is not erudite. It has associated with the term dyspepsia the idea of moroseness, whimsicality and misanthropy. We must not blame the laity for confusing things which are not held apart to a nicer degree even within the profession. So also with regard to gastric distress under pressure of food, eructations and many similar symptoms which the practitioner must single out.

Then, again, it is essential that the relation be made clear which subsists between stomach and intestinal difficulties. It goes without saying that it would be quite unmedical to fail in this fundamental discrimination. Barring some diseases in which the difficulty is dominant in one or the other form, stomach disease is usually accompanied by intestinal disturbance, and diseases which are original with the intestines are easily recognizable as such. The presence of fluids and gases dependent upon the motility of the stomach, frequent evacuations or persistent constipation dependent upon the peristalsis of the intestine, designate a group of difficulties which demand distinct recognition, by as much as they are distinct in condition. It can never be repeated too often that if we have nothing else to go by in our diagnosis than the subjective symptoms, we shall not have more than a diagnosis of probabilities, mere surmises which, of course, are unsafe and force us to a combat by medicaments of an empirical kind. It stands to reason that the therapeutic effects in such cases can hardly be as successful as those we attain after an exact diagnosis based on scientific examination. If we have diagnosticated that there is a pathological change of the stomach, we are not yet entitled on that account to give our treatment a decided direction. For, pathological changes as. such do not in themselves determine everything. The removal of functional disturbances which are incident to the pathological condition bring about influences which are favorable to the rehabilitation of the diseased organ. When we address ourselves to the disturbance of function, we make a bid for such favorable influences so as to reduce distress and to economize energy. We may make some of the disturbances nugatory by compensation through appropriate diet. But, after all, an exact examination is eventually inevitable.

It is not a difficult thing to disturb the balance of the digestive system. With the decrease of hemoglobin the bodily weight and strength decrease, and the capability of the stomach is also reduced. Sometimes nothing more is necessary than the reestablishment of proper nutrition, and the introduction of a rational mode of life. There is no reason why an average patient of that sort cannot be restored to health by such a regimen. What may appear to be a malignant case may not prove to be such in fact. The question of appetite is not involved in many instances. Appetite may exist simultaneously with an enforced self-restraint out of apprehension of possible distress. The tongue may be entirely clear, sometimes it may be coated and there may be a bitter taste in the mouth. Some patients have a chronic catarrh of the pharynx, but hese will in most cases be smokers and drinkers, especially such as acquired hese habits in order to alleviate their distress.

Considering that the stomach is constantly overburdened, no one need be surprised that the stomach and the digestive tract break down so frequently. In fact it is decidedly surprising how these organs endure the strain which nature has never meant they should be subjected to. There is, for instance, the habit of fast eating, which more than any other scandalizes the constitution as much as it does good manners. The food must be properly salivated through thorough chewing and preparation in the mouth, before it is sent to the stomach and intestines for complete absorption and assimilation. But, it is well known that the average American is more brutal with himself in this respect than he would allow anybody else to be with him. The business man does not consider that the matter of feeding is a serious piece of business and that he cannot afford to mismanage that without being punished for it. If he persists in gulping down indiscriminately and hastily hot and cold and large and unchewed and unmasticated masses, he should remember that the organs he overtaxes were constructed by nature for normal labor and that he must not expect the unreasonable and impossible from nature. It is possible that the organs will respond to the inordinate tasks for a time, but they will, in the end, break down, and when they do he will find himself under stress of the dyspepsia he may have heard of from his acquaintances and then he will have to consult some one with regard to unsurmised difficulties. For the fact is that nature demands compensation for every abuse of its gifts. Whenever the stomach has been put under heavy tax, the other digestive organs too by a sort of sympathy, or as might be said more technically, by secondary causes, are drawn into the ailment.

It is for these and many other reasons which I cannot mention here that the stomach tube is not only an effective means, but also one without which I cannot see how we could have done before. Its introduction into the practice of medicine has been unretarded ever since it was presented by KUSSMAUL. It has helped materially in advancing the study of stomach diseases and in assisting their diagnosis and therapy. But, whatever conveniences it has brought—and there are many—it may be hailed as epoch-making because of the great aid it gives to exact methods of scientific analysis. Of all the modern methods of diagnosing chronic disease of the stomach none can compete with the chemical, physiological and microscopical examination of the stomach contents after a test-breakfast. The contents of the stomach can easily be obtained at any time in a rapid way with safety and convenience to the patient.

32 ADAMS AVENUE WEST.

PERIODICAL INSANITY: A RESUMÉ OF SOME OF THE MORE IMPORTANT POINTS.*

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ALMOST all writers in approaching the subject refer to these normal fluctuations in the common sensation (cenesthesis) which manifest themselves in a more or less conscious ebb and flow of spirits, lowered or heightened intellectual tone, and lessening or increase of inhibition. This physiological periodicity is recognized as a normal nervous manifestation in all higher forms of animal life, and when we find a type of mental disease which is outwardly only an intensification of these processes, whose morbid phenomena are quantitatively rather than qualitatively distinguishable from the normal, the importance of an early recognition becomes apparent.

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*Read before the DETROIT ACADEMY OF MEDICINE.

This periodicity in the recurrence of an insane condition, which is the outward manifestation of a type of degeneracy, may consist merely in repetitions of an attack of elation, or of an attack of depression, recurring at varying intervals throughout the individual's life. The extent of the alienation may vary from a mild exaltation of the faculties or a slight hebetude, to wild excitement or profound melancholia. The extent of the departure presents the degree of insanity, and upon it depends also the necessity for restraint of the individual. The lucid intervals may vary from a few days or weeks to years in duration. Among such patients are found those who furnish to asylums repeated recoveries in the same individual. It is needless to say that one who has implanted in his nervous organization a weakness liable to assert itself after slight disturbing causes, or often when no outward influences can be discovered at work, is not to be regarded as restored when the paroxysm has expended its force, even though years of immunity may pass. Reliable statistics are based upon this conception: that this disease, like epilepsy, springs from a vice of organization.

Occasionally it is evident that the interval between the attacks approaches, but does not reach, the full level of mental health as was exhibited before the initial paroxysm. This phase of the subject has been neglected by most authors, but is referred to in the latest textbook (KELLOGG), where we have, it seems to me, the most satisfactory classification of the different varieties of periodical insanity.

It is when we come to a study of those cases presenting in a cycle opposite states of the various mental activities that we find our most interesting material.

To French writers we are indebted for the first identification of this special form of insanity. They early made a distinction, however, between those cases in which the maniacal phase and the melancholic phase are isolated by long periods of lucidity, to which cases they applied the term "Insanity of double form," and those cases in which the attacks are continuous, which latter they denominated "circular insanity." KELLOGG, in his recent textbook, has made a more comprehensive classification, which includes all the varieties above referred to, and is based upon the mode of periodicity, as follows:

(1) Intermittent mania: the ordinary recurrent mania, in which there is a tendency for the maniacal attack to gradually become longer and the intermission shorter, the patient finally becoming persistently maniacal.

(2) Remittent mania: the full limit of mental health never being reached.

(3) Intermittent melancholia: recurrent melancholia.

(4) Remittent melancholia: the intervals like those of remittent mania, being marked by some falling off from the normal.

(5) Circular insanity: mania and melancholia constituting a single cycle—*folie circulaire.*

(6) Intermittent circular insanity: in which the two phases are preceded and followed by an interval of health—*folie à double forme.*

Of the minute pathology of the disease we know little or nothing. That it has its origin in an inherited or acquired vice of constitution, all authors are agreed. Spitzka, quoting Kraft-Ebing, calls it a degenerative insanity, and cites as proofs that (1) the majority of the patients have a bad family history, (2) physical stigmata of degeneracy are common, and (3) the beginning of the disorder coincides with physiological periods. Clouston claims never to have met with a typical case of *folie circulaire* where there was not hereditary predisposition. Kellogg treats the periodic insanity under the head of "Insanity from Constitutional Neuropathic States," only less marked, he says, than the gross degeneracy manifested in the group of organic arrest of development. Except the latter, it is, he adds, the most strongly tainted with degenerate heredity. This heredity as manifested in the child may be transformed from other neuroses, or from syphilitic, phthisical, or alcoholic parentage.

Of forty-one cases of circular insanity under my observation at present, in eleven the mother was insane, in five the father was insane, in three both mother and father, in three an uncle or an aunt, in two a brother or a sister, in one a grandparent only, in two there was intemperate parentage, in ten no facts could be gathered, while in four only was there positive denial of heredity.

Most authors believe that this inherited defect is a vasomotor instability. The periodical insanities are marked by a more or less regular occurrence, analogous to the recurrence of epileptic fits. Spitzka speaks of the association in family lines of the two as suggestive of both disorders being manifestations of vasomotor states. Meynert, as quoted by Spitzka, says that "besides the degenerative heredity we have spastic and paretic vasomotor conditions."

As further illustrative of the close relationship, reference may be made to a case in my own experience in which the lucid interval was unusually prolonged, and during it nocturnal epileptic seizures became frequent. Subsequently, with their disappearance, the mental cycle was reestablished.

Starting with this vice of constitution we find as exciting causes a trauma, or the puerperal state, syphilis, alcohol, et cetera, or the evolution or involution crises.

It is a common belief that in women there is often a causal relationship between the insane manifestations and menstruation, but in *both* sexes we find the outbreak coeval with the physiological periods, and the most that can be asserted is that the menstrual condition is an exciting factor. Later the majority of cases may, as Clouston says, follow the law of the menstrual and sexual periodicity. He further claims for the cases in men that the majority follow the more regular periodicity of the sexual impulse (nisus generativus).

As to sexes, slightly more women are affected than men. As to frequency in general, out of something over four thousand admissions, about ten per cent. were instances of periodic insanity, but as the readmissions occur chiefly among this class, this figure cannot of course be accepted as at all correct.

Circular insanity may begin in early childhood, the early manifestation failing of recognition being, as Kellogg says, only a cenesthetic depressio and exaltation, the full maniacal or melancholic outburst appearing only a puberty.

Either the maniacal or the melancholic condition may be the initial phase Clouston thinks that ninety per cent. of the cases begin with excitement. The majority certainly have their first manifestations in puberty. So well establishe is this that in my experience every case of an apparently simple mania or melancholia appearing in this epoch is to be regarded with suspicion as a probable precursor of others. This is true no matter how complete the recovery may seem to be, and is rendered the more probable if there is a history of heredity. CLOUSTON's further statement that he has found no case in a woman commencing after the climacteric does not, I think, conform to experience.

A few words as to diagnosis. All agree that this is justified only by a history of recurrence, for it must be borne in mind that a simple acute mania may have as a prodromal stage a period of depression.

A brief analysis of the different stages of circular insanity will help to make distinctions clearer. The period of depression may be (a) a simple mental depression, (b) a melancholia, (c) a melancholia with stupor. In the latter class hallucinations occasionally control the patient. The period of excitement may be (a) simply a mental quickening, (b) a maniacal excitement, (c) mania with ideas of exaltation. In both stages there is apt to be, however, correspondence in grades. The physical state is apt to vary and correspond with the mental states. Clearly lucid intervals are apt to occur where the maniacal and melancholic stages are well marked. An important characteristic is the similarity of manifestations in different attacks. "The earlier attacks are sometimes abortive, and do not resemble later ones; and as the disorder progresses the attacks become as a rule more severe, but for any period extending over a number of years the attacks are so similar that the same morbid propensities, the same imperative conceptions and impulses, the same delusions and hallucinations, nay, the same insane language, occur with a regularity which is not the least striking feature of periodic insanity."—SPITZKA.

To go into detail a little more: In the stage of mania "the exaltation is very pure brain exaltation, with often hyperæsthesia and exaltation of many of the nervous functions, with much reasoning power left, but little self-control or common sense."—CLOUSTON. The excitement is angry rather than pleasant, there is moral perversion rather than sanguine exaltation. There is self-assertion, often more intolerant than that of paranoia. The impulses noted by SPITZKA have a malicious tinge, and are often characterized by tendencies to theft, arson, alcoholic excesses, and, finally, but not least, to erotic manifestations.

In circular insanity the transition between periods is usually abrupt; in the simple psychoses it is more apt to be gradual. As regards the state of depression, there is nothing that may be considered especially characteristic. KELLOGG calls attention to a suicidal tendency. In my experience this is exceedingly rare in circular insanity. I cannot now recall a case in which this symptom was regarded as important. The melancholia is characterized by apathy and torpor, rather than by mental pain.

Termination.—Inasmuch as we have in the vast majority of cases a constitutional affection, it follows that recovery is rare. Discipline and routine have often accomplished much. I have now patients under observation who have been able to put a check upon their impulses to such a degree as to permit of a resumption of life outside which has now lasted for several years. One woman now under observation has been for five years emancipated from the slavery of once frequent recurring cycles. Such cases are remarkable because of their rarity.

Considering the profound bodily depression that often attends the melancholic stage, termination by death is surprisingly infrequent. Some authors speak of occasional transformation into some other form of mental disease. Dementia is singularly slight in most cases, patients retaining during their lucid periods their native intellectual powers. With approaching senility a very great degree of comfort is often reached. Although these unfortunates are in a sense degenerates, many of them were precocious in childhood, and often in later years manifested traits of genius. It is this perhaps that has led so competent an authority as CLOUSTON to make a statement, that cannot be borne out by the experience in American asylums, that pure cases are confined to the educated and those of blue blood.

EXTIRPATION OF THE RECTUM; OR, WHAT RECTUMS SHOULD BE EXTIRPATED?*

By JOSEPH M. MATHEWS, M. D., LOUISVILLE, KENTUCKY.

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WHEN I received the very kind invitation of your president to be present with you tonight, and read a paper before your distinguished body, I confess that my acceptance was given hurriedly and perhaps without sufficient forethought.

My time has been so completely taken up that I feel a diffidence in offering a paper which has been so hurriedly prepared. I recognize that in this body there are eminent men who are thoroughly versed in the subject I present, and for whose opinions I have the most profound respect. Therefore if the sentiments of this paper should be at variance with their opinions, I have to beg, in extenuation, that my conclusions have been formed after twenty years active service in this special field. I shall have nothing especially new to offer, only to oppose a procedure that has grown into much prominence of late in the surgical world. I allude to KRASKE's method of extirpating the rectum.

Sometimes, for the sake of doing a brilliant piece of surgery, we may fall into error by overlooking simpler methods which might be just as effective. One surgeon reports the removal of the prostate gland, the sigmoid flexure and the entire rectum at one sitting. It is not a question whether the entire rectum can be removed, for it has often been fully demonstrated, but rather when it is advisable to do so. The disease for which this operation is practiced, principally, is cancer. It is not my intention to question the statistics relative to the mortality or cure of cancer of the rectum, by disposing of it by the radical operation. But attention should be drawn to the fact that most writers on the subject are more negligent in stating the full length of time that a patient lives than they are to the manner of doing the operation. OLSHAUSEN says: "Vaginal carcinoma thus far does not offer a favorable prognosis, the recurrences occurring early. In sixteen of his cases relapses occurred in fifteen. In th sixteenth case the disease had not recurred after two years." In carcinoma o the rectum, in the female, the vagina is often involved. Again no one abide by a surcease of two years to say that carcinoma will not recur. PAUL say that excision of the rectum, except in minor degree, has not been warmly advocated by surgical writers in England. CRIPPS, out of an experience of fou hundred cases of rectal cancer, has only operated upon thirty-eight, and disapproves of the major operation. **Treves** does not even mention the name of **Kraske**, or **Alexander**, and thinks that three inches is the limit beyond which excision is not advisable, and violently opposes the opening of the peritoneum. **Jacobson** strongly condemns the high operation. **Taylor** says that many surgeons do not regard extensive operations for rectal cancer with much favor, as they believe these operations cannot be carried out as completely as is possible for cancer, for instance, in the breast. Yet he, **Taylor**, looks with some favor upon the major operation, preferring the sacral method and particularly the osteoplastic resection. The mortality of rectum excision varies from twenty to twenty-five per cent. **Taylor** says: "Even if only a very small percentage of radical cures were obtained it would be much better to operate than to leave sufferers to the miserable end to which this disease dooms them." There are two objections to this treatment. First, there is a heavy percentage of patients who die as the result of the major operation. Which is best, to have a certain number die because you operate, or a certain number live because you did not operate, granting even in some pain? The patient would quickly decide this point. Second, many of these cases of carcinoma of the rectum are not the distressing affairs that they are pictured. Time and time again I have had these patients visit me to be prescribed for constipation only. If the sphincter muscles are not involved, many cases suffer but little pain.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

WHEN SHALL WE OPERATE?

It is unfortunate, but the surgeon seldom sees these cases in their incipiency. Indeed in the vast majority of cases the deposit has made great encroachment upon the lumen of the gut before we see them. In a few instances I have examined cases in which total occlusion nearly existed, and no distressing symptoms had presented. The best time, of course, for excision is in the earlier stages, for many reasons that are apparent, and no one would deny, I suppose, that if the growth was in proper location that it should be removed at once. Malignancy often affects the rectum at its lower margin, especially epithelioma, and when such condition can be circumscribed it makes an ideal case operation. It has been my misfortune to meet with but few such cases. Any portion of the rectum may be the seat of cancer, but it has been the observation of the writer that if cancer is found in the upper rectum it has its origin in the sigmoid flexure and extends downward, and if it begins at the lower portion or anus, it extends upward rather than outward. To answer the question then, When shall we operate? it might be said, namely:

(1) When a dangerous degree of hemorrhage exists.
(2) To prevent total occlusion.
(3) To alleviate great and distressing pain.
(4) To prevent further extension of the disease, and effect a cure.

To the first proposition: *When a dangerous degree of hemorrhage exists*, the writer would affirm that he has never had occasion to operate on this account, not that he has not seen cases that bled profusely, but in such cases the bleeding could be, and was controlled without the radical operation. In many instances great hemorrhage, or indeed a small hemorrhage, seldom occurs. If, then, such a dangerous symptom does exist, and cannot be stopped, a radical operation is justifiable.

Second, *To prevent total occlusion.* If, upon examination, it is discovered that but a small opening exists, and in consequence a distressing line of symptoms present, it is not necessarily a case for extirpation, but rather to relieve the strictured condition. There are procedures much simpler, and certainly much less dangerous, that will accomplish the desired result.

Third, *To prevent great and distressing pain.* It would depend entirely upon what caused said pain, and if an operation would relieve it. Pain in malignant growths is often *inherent*, caused by the involvement of nerves in pathological tissue, and if this condition exists to a marked degree it would call for the extirpation of the growth rather than a colostomy. If, as many suppose, pain is caused by the friction excited by the passage of the feces, then a colostomy is preferable to extirpation, all things being equal. But I believe that the distinguished surgeons present will attest that in many cases of cancer of the rectum, especially when the growth does not involve the sphincter muscles, pain is not a factor in the case. Under such a condition one would not be justified in extirpating the rectum.

Fourth, *To prevent further extension of the disease, and to effect a cure.* This last reason appeals more to the surgeon, I admit, than all others combined. If such result can be obtained, a surgeon would be very remiss in his duty if he did not resort to the most radical method even to accomplish so good an end. But can this result be obtained, and when? Several methods have been proposed by which the entire rectum can be removed. So that is no longer a question, *When shall we operate?* in order to effect a cure. In the early stage and when all the involved tissue can be removed? Yes; by all means. But shall we operate after this stage has passed? Just as emphatically I would answer, no. The gynecologist is beginning to stop and count over his recoveries after hysterectomy for cancer. Just what the tables are has not yet been tabulated or reported. How many recoveries from extirpation of the entire rectum for cancer is not definitely settled. We know that a certain percentage die as the result of the operation. Some live, one, two, three, or perhaps six years after the operation. But would they have not lived just as long without it? Many do; yet may it not be they lived in greater ease, but did they? Some do not. If for relief of pain *only*, morphine would have accomplished as much. There can be no doubt but that when constitutional symptoms are manifest, when by the infiltrative process, neighboring organs and tissue are invaded, extirpation is unjustifiable. The operation especially by the KRASKE method is both a dangerous and a difficult one. With so little to promise, and so much to go through, is it not better to comfort than endanger the life of your patient?

The treatment of cancer of the rectum by extirpation is not a new one. LISFRANCE was the first to recommend it. Others followed but it soon was abandoned. Since KRASKE gave us his plan it has been greatly revived. Would it not have been just as well not to have given it such an impetus? In Baltimore, at the meeting of the American Medical Association, the writer read a paper entitled, "Is total extirpation of the rectum ever justifiable?" A few weeks thereafter I received a letter from one of the most distinguished surgeons in this country in which were these words: "An old man's thanks for your 'Is total extirpation ever justifiable?' I am now in my fifty-second year's practice of general surgery in a large city, and I can say without qualification, my heart, mind, and observation concurring—thanks." In that paper I took exceptions to the **Kraske** operation and was opposed by a number of surgeons present, among them my friend **Doctor N. Senn**, of Chicago. I had the pleasure of meeting the distinguished surgeon a few days ago, and he told me that he never expected to do a **Kraske** again, but that he would always hold the sacrum against invasion, in extirpating a cancer of the rectum.

HOW SHALL WE OPERATE?

For the treatment of cancer of the rectum a number of plans have been advocated:

(1) Caustics, including the thermo-cautery.
(2) Colostomy.
(3) Currettement.
(4) Removal by the **Kraske** operation.
(5) Removal by the circular method.
(6) Palliation, and by division of the coincident stricture.

The first is not much practiced and is of but feeble utility.

The merits of the second (colostomy) have been argued *pro* and *con* by many authors. The writer prefers to be classed as an anticolostomist in the majority of cases of cancer of the rectum.

The third method (curettement) is advocated by **Tuttle** in an able article. The writer fails to see any advantage it may have over extirpation, and certainly accomplishes less.

The fourth (the removal by the **Kraske** plan) is received with much more form in this country than in Europe. It cannot be gainsaid that it is a difficult piece of surgery and attended by danger. But the principle reason that the writer opposes it is that by a simple method the whole rectum can be extirpated if deemed advisable.

Fifth (the circular method). Anyone after doing extirpation of the rectum by both methods must have been struck by the simplicity of this. If any trouble is encountered by removing the coccyx all the room is obtained that is needed. The sacrum in the writer's opinion, should be held sacred. Your distinguished surgeon, **H. O. Walker**, has improved upon the **Kraske** by suggesting and practicing the use of a large Murphy button to attach the upper and lower edges of the severed intestine.

Sixth (palliation). This can be practiced by many soothing local applications and by division of the strictured portions. I would add also that all pain can be made bearable by the use of opium. The writer has been practicing a certain plan for the treatment of strictures of the lower gut, which differs materially from that of others. In the last issue of *The New Orleans Medical and Surgical Journal* **Professor Ernest La Place**, of Philadelphia, discusses his manner of dealing with strictures of the rectum, namely: "The use of the graduated rectal bougies is the least harmful way of tearing the fibres apart, and of removing the stricture. This is done under ether and can be accomplished in a few minutes. In two or three weeks after the dilation we find that the gut has retained the new calibre by the operation, or should it have a tendency to contract again, the patient is shown how to use a moderate-sized bougie so as to keep the gut patulous." The writer much prefers to forcibly dilate to full extension by a formidable dilator, and not to use any subsequent dilation at all. His manner is to forcibly break the stricture, to the fullest extent, then plug to prevent hemorrhage. The frequent use of the bougies accomplishes but little, and the friction extended by the same causes additional deposit especially in syphilitic or benign strictures.

CONCLUSION.

(1) That the KRASKE operation for the removal of the rectum is not to be advised.

(2) That what is known as the high operation for the removal of cancer of the rectum is seldom justifiable.

(3) That the opening of the peritoneal cavity in operating for cancer of the rectum is to be deprecated and should not be regarded as a "light affair."

(4) That the circular method is to be preferred in the extirpation of cancer of the rectum over the sacral method.

(5) That all malignant growths within reach of the finger and that can be circumscribed should be extirpated.

(6) That where a stricture exists, threatening total obstruction, and it is not considered advisable to extirpate the growth, either colostomy should be done or the stricture should be forcibly dilated.

(7) That forcible and free dilatations of a stricture often accomplishes as much as a colostomy, and is much to be preferred.

(8) That it is questionable whether the entire rectum should ever be extirpated for cancer.

INSOMNIA.*

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PERHAPS there is no one symptom that is so constant a feature of disease as some degree of sleeplessness. Sleep, in a sense, may be considered the barometer, as well as the thermometer of health. When the body is healthy, and all the bodily functions well performed, sleep is calm, sound and refreshing. When disease actually exists, or when insanity, the infectious fevers, pneumonia, meningitis, rheumatism and many other diseases cast their shadows before, it is more or less fitful, and painfully disturbed by dreams. Insomnia is a spectre, therefore, that with few exceptions, both heralds and attends disease, as well as sits upon the shoulders of the man who is a nervous wreck, or broods over bereavements, losses, disappointed hopes and shattered expectations. Its effect upon the system is more disastrous than starvation, and, if neglected when pronounced, may fatally handicap every effort toward recovery.

Insomnia is merciless. It respects neither age, position nor condition. It may render uneasy the head which wears a crown, as well as the head which wears a cotton cap. It rears its spectral form equally in the palaces of the rich, as in the hovels of the poor. The morbid conditions, of which it is an expression, are manifold—from grave organic lesions to mere functional disorders. To lay bare the cause, in many cases, requires the exercise of the highest skill, and its removal, or alleviation of the symptom, frequently taxes to the utmost the therapeutic resources of the physician.

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*Read before the SAGINAW COUNTY MEDICAL SOCIETY.

If the essence of that subtile change which spreads over every animal organism and constitutes sleep were known, our treatment of insomnia—at least the functional cases—would rest upon a scientific basis. As it is, our methods of treatment must, in a measure, be empirical. Perhaps as much may be said with reference to most morbid conditions. We love to boast of scientific medicine, and all desire its advancement, yet few can honestly deny that they are more often guided in the selection of a drug through the reputation it has acquired by the observation and experience of ourselves and others, than by its probable physiological applicability to any particular case.

Many attempts have been made to explain the phenomena of sleep. Theories and suppositions abound, but none seems to merit general acceptance. Like several other secrets of physiological science it is evidently one which nature guards with jealous care. Perhaps the problem, like that of life and the origin of energy, will forever remain unsolved. Some have endeavored to explain the periodic ebb and flow of nervous energy—the alternating periods of activity and repose, consciousness and unconsciousness—by supposing the existence of a sleep-producing centre in the brain, having the power of inhibiting consciousness, and thus placing the body in a somnolent condition. This simple and natural theory is extremely plausible, and such a centre is quite consistent with the principles of neural physiology, but, unfortunately we have no reliable evidence as to its existence. It was formerly supposed that a condition of coma, resulting from hyperemia, offered the truest analogy to the normal condition of the brain during sleep, and therefore it was said to be congested. As a matter of fact it is now known that the opposite condition is uniformly present, namely, *anemia*, which increases as sleep deepens. This is conclusively shown by the partial closure of the fontanelles in infants during slumber, and observing the vessels of the retina, or the brain, during sleep, in any of the lower animals. It is questionable, however, whether this shrinkage of the brain is a cause or a result of sleep. It might certainly follow as a consequence of the quiescent condition, since we know that the vascularity of other organs—the stomach for instance—varies with its functional activity. Blood is supplied to the cerebrum for two distinct purposes: (1) to nourish the tissues; and (2) to bring combustible matter to nerve cells to be transformed into manifestations of nervous energy. During sleep blood is required only for the first of these purposes, hence it is a wise and necessary provision that the supply be curtailed, so as not to afford stimulus to the cells when repose is desired. Whether the anemia is the primary cause of the lessening of cerebral functions, or merely the result, there is no means of knowing.

Perhaps some transient change in the composition of the blood, due to the accumulation therein of waste products, may act as a factor in bringing about a molecular change in the cortical cells, whereby they are rendered dormant and less responsive to stimuli. That nerve cells throughout the brain and spinal cord are in a quiescent state during sleep cannot be gainsaid. We see this indicated in the toneless muscles and diminished reflexes, less frequent pulse and slower breathing, contracted pupils and lessened activity of secreting organs. In quite another way a temporarily altered blood state may possibly induce a soporific condition, namely, by acting upon the nerve endings in the periphery, obtunding them and thus preventing external impressions from exciting the nerve centres. We know that when the sensory nerve endings on the surface of the skin are benumbed by exposure to extreme cold, the desire to sleep is over-powering. Sleep thus produced by blocking up the avenues by which impressions of the outer world reach the inner consciousness is more nearly akin to normal sleep. We make an inverse application of this principle when we endeavor to maintain a condition of wakefulness, in morphine poisoning, by persistently producing powerful impressions upon the sensorium.

An interesting case is on record of a boy who, as a consequence of scarlet fever, had lost all sensations of touch, pain, temperature—in fact everything except that afforded by one eye and one ear. Sleep could always be produced in this case in an instant by stopping the ear and closing the eye. It must be admitted that, independent of external impressions, the subjective consciousness plays no unimportant part in keeping the cortical nerve centres on the *qui vive*, as, when this is intense, the arrest of objective impressions do not so profoundly modify consciousness.

The latest and most popular theory regarding the causation of sleep is founded upon the recently accepted fact of the individuality of the neuron —the fact that a nerve cell and its processes are not inseparably connected with other nerve cells and processes; that the contiguity of dendrites and terminal brushlets of the neuraxon to other nerve cells or processes is essential to the normal activity of a cell, and that these processes are capable of retracting from the vicinity of other nerve cells and processes, the neuron thus becoming isolated and functionless. Reasoning from these premises, LEPINE and DUVAL have maintained that the sleeping and the waking states are due to this connecting and disconnecting of neurons. They do not pretend to explain what brings about the simultaneous retraction and expansion of the cell processes, which is the vital point. Possibly it results from changes in the protoplasm of the cell. RAMON Y CAJAL advances the theory that the change is not inherent in the nerve cell, but is due to the contraction and expansion of the surrounding neuroglia. This *fin de siecle* theory of LEPINE and DUVAL is perhaps the most beautiful and fascinating of all, yet it is manifestly incomplete. The field for speculation on the subject is vast, and it is this very fact that makes us prone to look upon even the most plausible explanation as consisting of but half-truths and uncertainties.

Insomnia may be defined as a persistent abridgment or interruption of the normal period of sleep, due to a disturbed nervous state. According to the character of the causal factors the subject divides itself into two great groups, namely, the symptomatic and the functional. In the former group are included those cases arising from the irritability and discomfort due to acute disease and painful conditions, as rheumatism, neuritis, neuralgia, cancer, aneurism, cardiac disturbances, gastric derangements, insanity and senility. The pressing indication in this class of cases is, of course, to treat the underlying pathological condition. This frequently suffices, but special attention to the symptom is sometimes imperative. Morphine must be resorted to in the severely painful states. It is the one thing whose analgesic power nothing else can equal. It is a peerless drug in the insomnias of functional and organic heart disease, melancholia and senility, although in these conditions I prefer the deodorized fluid extract of opium. In the minor states of irritation and pain codeine is, perhaps, better, being without the constipating effect of opium, but somewhat prone to produce anorexia. Phenacetine, with or without codeine is occasionally serviceable, as is also antipyrine plus a little brandy, or a drachm of aromatic spirits of ammonia, to counteract the depressing effect. It is an unfortunate fact, which experience soon teaches, that nearly every drug of any real potency has some collateral ill effect. Thus they may depress the heart, render muscular tone, render torpid an already sluggish liver, impair digestion and nutrition and retard elimination and metabolic changes, at a time when it is important that all these functions should be maintained at their highest point of efficiency. For this reason I am in favor of adopting, whenever practicable, mechanical measures for producing the desired result. All of us have seen how soundly the typhoid fever patient sleeps after his bath, and how promptly the feverless patient succumbs to sleep after a warm one. The *modus operandi* in each case seems to be a temporary benumbing of the sensory nerve endings in the skin, which in a measure, prevents sensory impressions from exciting the nerve cells, thus favoring sleep. Further than this we have the beneficial effect of the play upon the vasomotor influences of the body, by means of which we can modify, directly and reflexly, the vascular conditions present in the underlying tissues, as well as in the brain and spinal cord. This play upon vasomotor influences is the keynote of hydrotherapy. Whatever experience I have had in the treatment of insomnia leads me to say that I have seen more gratifying success follow, in a greater number of cases, such procedures as baths, cold pack, drip sheet, general faradization and longitudinal galvanization of the head, than the administration of drugs.

Sleep has such close relations to the vascular system that it is well to investigate the condition of the heart in every case. When cardiac inefficiency exists the brain must necessarily be put upon short allowance while the erect posture is maintained, and comparatively flushed when the prone position is assumed—a condition of things decidedly unfavorable for sleep. In such cases the administration of cardiac tonics, according to indications, will so alter the vasomotor conditions as to speedily produce a change for the better.

An important subdivision of the symptomatic group is that interesting class of cases known as toxic insomnia, commonly resulting from the ingestion of cerebral stimulants, as caffeine, coffee, cocaine, alcohol, and from the autointoxication of lithemic, gouty, nephritic and other diseases, the treatment of which manifestly consists in correcting the perverted drug habit, or striking at the fountain head of the toxemia.

In the restless, peevish, irritable sleeplessness of childhood—and the insomnias of childhood are nearly always so—I know of nothing so satisfactory as the hypodermic injection of from $\frac{1}{100}$ to $\frac{1}{300}$ grain of the hydrobromate of hyoscine. This is also wonderfully effective in the exalted excitability of the cerebral centres which presages mania, in any age. The wakefulness attended by muscular twitchings and loss of inhibitory control is well met by the judicious use of the bromides, with or without chloral.

During the past decade chemical science has enriched our collection of hypnotics by the addition of such valuable agents as sulphonal, trional, somnal and others. Sulphonal and trional are ideal hypnotics in that they produce sleep of a natural character, evidently by indirectly overcoming the hyperemic condition of the brain, and not by directly stupefying the cortical cells, as is the case with the opiates. Trional and somnal have the advantage of producing sleep with greater promptness and less risk of untoward effects than sulphonal. They are particularly suitable for children. Their reinforcement with codeine, when required, produces an excellent effect. In the functional group of cases are to be found some of the most perplexing and intractable types of insomnia. As a rule the subjects are of an intensely neurotic temperament, commonly overtaxed brain-workers, students, business and professional men. While many of these cases are undoubtedly due to irritability of nerve cells and nerve centres, the brain-racking reflexes of remorse, grief, worry and anxiety, yet I am convinced a perverted sleep habit lies at the bottom of a good percentage of these cases. In the matter of sleep, habit dominates us just as strongly as in other affairs of everyday life. Irregularity of retiring hour, some radical change in one's environment, frequent switchings off from well-worn grooves will all conduce to establish a perverted habit—and habit, when once established, whether good or bad, rules with a rod of iron. Those accustomed to occasional spells of night duty find it difficult, for some little time, to regain their wonted degree and duration of sleep. Victims of habit insomnia should be advised to retire punctually at a fixed hour. Much help may be afforded by sulphonal, trional, somnal, chloral or the bromides for a few nights in securing sleep, gradually withdrawing their use. Very often it is essential to investigate the evening habits of the patient, the character of his evening meal, the bedding, size, position and temperature of the bedchamber for possible factors that might militate against sleep. A glass of hot milk, gruel or bouillon to obviate waking from hunger, also serves to attract blood to the stomach and thus lessens the amount in the brain. Sulphonal is admirably suited for 2 o'clock in the morning insomnia, as when taken at bedtime, on account of its slowness of action, its full effect is produced in the early morning hours. Too much dependence upon any hypnotic is an evil, and should be guarded against. Frequently varying the drug used, giving, say, sulphonal for from one to three nights, following, for the same period, with trional, sómnal, paraldehyde, chloral or the bromides, is a most excellent plan, preventing tolerance and enhancing the effect produced.

Undoubtedly the saddest and most hopeless cases of insomnia are those sometimes seen in the broken down business or professional man, who has overdrawn his stock of nervous energy, and who broods over business reverses, embarrassments, et cetera; or in him whose sensorium forever feels the poignant pangs of grief, remorse and the bitter failure of fondly cherished hopes. SHAKSPEARE was correct in his philosophy, when in reply to MACBETH's query—

> "Can'st thon not minister to a mind diseased,
> Pluck from the memory a rooted sorrow:
> Raze out the recorded troubles of the brain,
> And with some sweet oblivious antidote,
> Cleanse the stuffed bosom of that perilous stuff,
> That weighs upon the heart?"

he makes the Doctor say:

> "Therein the patient must minister to himself."

The personality of the physician counts for much in these cases. He should endeavor to wean the patient out of his habits of retrospection and introspection, to encourage him to look up to the light rather than down into the darkness, and to impress upon him the necessity of maintaining a calm and complacent frame of mind. Cases advanced in years should be advised to retire from the worry and cares of business—to leave absolutely:

> "The low vain strife that makes men mad:
> The tug for wealth and power.
> The passions and the cares that wither life,
> And waste its little hour."

Rest and change of scene, freedom from vexatious incidents, tonics and recuperative measures—hydrotherapy, electrotherapy—in short prolonged stay in a good sanitarium may alone save some of these cases from tottering over the precipice into the abyss of mental gloom.

SIX CASES OF EXTRAUTERINE PREGNANCY.*

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Case I.—Mrs. H., aged twenty-eight years. Four years ago, when a widow, having had one child, I operated upon her and removed the left diseased tube and ovary, and attached the stump to the lower anterior wound for retroflection. She made a good recovery, and married six months before I saw her again. About the end of April she had an attack of inflammation and pain in the right ovarian region, or rather a little higher, in the region of the appendix, which came on suddenly and was accompanied by fever, a rapid pulse and severe pain. With the usual treatment, she soon recovered, it being considered a mild attack of appendicitis. Returning from a shopping expedition, being very warm, she took a bath, and while dressing was suddenly taken with an excruciating pain, and then fainted. Doctor Sargeant was called and relieved the pain by hypodermic injections, but vomiting ensued, which continued for two days during which time the bowels did not move. Her pulse was from 80 to 85 and continued so throughout; the temperature increased one-half a degree every day, there was well marked pain and swelling in the region of the appendix and a diagnosis of appendicitis was made. I was called in and verified the diagnosis, with some doubt, however, on account of the pallor of the patient and the peculiar onset of the disease. She had never missed a menstruation, but was in the habit of running a few days to a week over time. Her general condition seemed to improve, but for fear that the symptoms would become aggravated, and as an abdominal section might be necessary, we took her to Harper Hospital to be in readiness to promptly operate. The next morning the fever increased, lthough the pulse remained at 80. I promptly operated, without knowing what I would find. The fever, the swelling, the location of the pain, and the pulse indicated appendicitis: the peculiar, blanched appearance and the sudden onset of the disease indicated extrauterine pregnancy, but in the latter case she ought to have a very rapid pulse and no temperature. I made the usual incision, and when I reached the peritoneum I found it black, and said it was a case of extrauterine pregnancy. I opened it and immediately a large quantity of blood came out. Bringing the incision downward, I peeled out the tube with placenta and ligated it. The tube was attached high up to the side of the pelvis, and therefore made this case a most peculiar one. She made an uninterrupted recovery.

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* Read before the Wayne County (Detroit) Medical Society.

Case II.—On June 11, I was telegraphed for to go to Port Huron and prepare to operate on a case of extrauterine pregnancy. I found Mrs. K., aged twenty-eight years, married seven years, a strong and healthy woman otherwise, but had some irregularity of menstruation. She was suddenly taken with collapse and the other symptoms of extrauterine pregnancy. Doctor Stewart properly diagnosticated the condition, and I operated in the usual manner, removing but very little of the blood. I found a fetus barely an inch long, and the only one I found in this series of cases. Five days afterward I was again called and found the woman suffering from sepsis. I removed a few stitches in the lower angle of the wound and peritoneum, and quite a large quantity of blood and pus flowed out. There was quite a large cavity well walled in, and I carefully swabbed it out, put in a large gauze drain and after this the patient made a rapid recovery. This case simply shows that the blood clots are very liable to decompose and often cause trouble, especially if we operate at the home of the patient, where we have not the aseptic surroundings of a hospital.

Case III.—Mrs. D., aged twenty-eight years, married two years, no children; always regular, but always had severe pain. She was taken with severe pain in the region of the left tube, the old-fashioned, so-called pelvic cellulitis. With the usual treatment the symptoms gradually subsided, and the woman was up and around for a few weeks, when she was suddenly taken again, became extremely weak, and had a high fever. Doctor Jamieson, who treated the case, asked me to see her, as serious symptoms had steadily increased and she then had a temperature of 103°. I diagnosticated a pus-tube, sent her to Harper Hospital, and operated upon her June 19. As soon as I reached the peritoneum with my incision, I became satisfied there was another condition, the abdomen being full of blood. Opening it I found a ruptured tubal pregnancy, which I removed in the usual manner. The abdomen was thoroughly flushed out and cleansed, and absolutely no pus found, nor any cause for the high temperature. The woman made an uninterrupted recovery.

Case IV.—Mrs. G., aged twenty-eight years, mother of three children. I was called July 6, by Doctors Murdie and MacQuisten, to see the case, which was very suspicious—one of the very weak and low kind. She had a number of attacks of inflammation and pain in the pelvis accompanied by great prostration. I had her removed to Harper Hospital and operated upon her the next day, after everything in the way of ordinary treatment had been used. I found a tubal pregnancy and the abdomen filled with blood. I quickly remove it, the operation taking only a few minutes, made use of subcutaneous salin transfusion and saline rectal enema, but she never rallied, and died twelve hour afterward.

Case V.—I was called by Doctor William Henderson to see Mrs. T., aged thirty-eight years, mother of five children. She had had a number of sligh attacks of pain in the pelvis. Two weeks before I saw her she was taken with most severe attack while visiting at her sister's, so that she had to stay there until the next day. I diagnosed extrauterine pregnancy, removed her to the hospital and operated promptly. The abdomen was filled with blood. The left tube, containing a fetus, was removed, and as the right tube and ovary were also diseased I removed them also. She made a splendid and uninterrupted recovery.

Case VI.—Mrs. C., aged twenty-seven years, mother of three children, an actress. While at New Orleans she was taken with severe pain in the abdomen, went to a hospital, and in a few days recovered sufficiently so that she could travel. In Cincinnati, she was taken with another attack, again went to a hospital, laid up for a few days, and finally came to Detroit. When between Toledo and Detroit, on the train, she was suddenly taken with excruciating pain and collapse. With difficulty she was removed to the home of a relative in the city, Doctor W. J. Wilson was called and diagnosticated extrauterine pregnancy, and asked me to see the case. I verified the diagnosis and immediately summoned an ambulance to take her to Harper Hospital. The pulse was hardly perceptible and anemia of the brain was so profound that she hardly knew what was going on. There was no time for a bath or extensive preparations. She was immediately placed on the table, the field of operation quickly cleansed, incision made, and the left tube and ovary promptly removed. Pregnancy was of very short duration, and still, the hemorrhage had been most profuse. I gently washed out the lower part of the abdomen, but did not disturb the mass of the blood, and sutured the wound, the sole object being to do the operation as quickly as possible. During the operation a pint of saline solution was injected beneath each breast and one quart was administered per rectum. She rallied splendidly, the pulse was better after the operation, and she made an uninterrupted recovery.

These cases apparently come in shoals. Here are six cases in a little over three months, and I may not see another in a year.

SURGICAL TECHNIQUE IN GYNECOLOGY.*

By FRANK DUANE SUMMERS, M. D., Detroit, Michigan.

VISITING GYNECOLOGIST TO SAINT MARY'S HOSPITAL; MEMBER OF THE DETROIT MEDICAL AND LIBRARY ASSOCIATION, THE WAYNE COUNTY MEDICAL SOCIETY, THE DETROIT GYNECOLOGICAL SOCIETY, AND THE MICHIGAN STATE MEDICAL SOCIETY.

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It is often very profitable for the surgeon to examine the technique followed in many of his operative cases, as there frequently are methods that could be somewhat improved upon in certain cases. The surgeon who studies his cases in all their minute details is the one that deserves the crown of success.

We are all well aware of the many long and tedious operations that are today performed upon the weaker sex, that only a few years ago would have greatly astonished the profession, but now with the utmost care in asepsis the results are wonderfully successful. There are still many points of interest to gain, and many valuable suggestions to be brought about by the careful study of surgical progress. We appreciate the fact that asepsis and antisepsis are great factors in bringing about good results in surgical gynecology. It matters little how small the operation may be, thorough precaution should be taken and the operator will profit in the success achieved.

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*Read before the Detroit Medical and Library Association.

It is impossible to destroy all microorganisms, but they can be made sterile or dormant so that a fresh wound will not suffer from their presence. It has been proven many times that the main contestants for position in surgical procedure are the staphylococci and the streptococci. It has been proven by Doctors Kelly, Robb and Ghrisky of the Johns Hopkins University in their many experiments, that the staphylococcus pyogenes albus and sometimes aureus are present in enormous numbers on the hands and about the finger nails of all physicians and surgeons. They found after cleansing the hands with brush, soap and water, even as long as twenty-five minutes, that they were unable to remove all the germs. The hands are almost constantly coming in contact with infectious materials and are excellent carriers of this germ into fresh wounds, unless the utmost care has been taken with the operator's person before coming in contact with a wound. I remember well some of the experiments that I saw in the Woman's Hospital in New York after the operator's hands had been scrubbed by the usual method, and still the scrapings from under the finger nails would give cultures of the staphylococcus, pyogenes albus and sometimes staphylococcus, pyogenes aureus. In these cases it was known that the experiment was to be made and extra precaution was taken to render the scrubbing more thorough and more time occupied in immersing the hands in a bichloride of mercury solution. Doctor Kelley has demonstrated that solutions of bichloride of mercury as strong as one to five hundred are not germicidal even after immersion of the hands for from four to five minutes. It only inhibits further growth until the salt is removed. The usual method adopted by most physicians is as follows:

Clean the nails with a pointed steel, cleanse the hands, especially the nails, with soap and hot water and a sterile brush. Immerse the hands for one minute in an eight per cent. solution of alcohol and immediately transfer to a bichloride of mercury solution, one to five hundred, for one minute when the hands are said to be sterile. Doctor Kelly has experimented many times in his hospital work after such preparation and the scrapings from under the finger nails would produce no culture, showing the product to be sterile, but scrapings immediately taken from the opposite hand, after precipitating the bichloride with a sterile solution of ammonia sulphide, showed innumerable colonies formed from such culture. He made three experiments with peroxide of hydrogen but could also make cultures. Four per cent. lysol solution was used and still culture was made. Doctor Kelly has found that a saturated solution of permaganate of potassium, in conjunction with a saturated solution of oxalic acid is the only one that has proved immune to culture in his experience. I saw Doctor Fowler, of Brooklyn, operate many times two years ago and this solution of permanganate of potassium was his favorite.

The physician should observe the utmost care in having the nurse prepar the patient for the operation. Cleanliness should prevail upon every part of th body as well as upon all of the garments. The patient should be made clea in all her surroundings about the room, and everything pertaining to the dressings of the bed should be perfectly clean. My plan is to have the patient ente the hospital so that she will have two nights in the hospital before the opera tion, in case it is to be a laparotomy or vaginal hysterectomy, and order at once two compound cathartic pills and repeat the dose the second night if necessary, to be followed in the morning by a warm enema of soap and water that her alimentary canal may be thoroughly cleaned out. A warm bath, with a thorough scrubbing with soap is ordered the first night, and the next day the parts over the pubes and mons veneris are to be shaved and scrubbed with soap; following this, the patient is to have her second warm bath with soap and a thorough scrubbing. The patient at her bedtime should have applied over her abdomen, if the operation is to be a laparotomy, a soap poultice, which should be removed in the morning, with warm water and scrubbing, and a gauze dressing of bichloride solution, one to one thousand, applied and allowed to remain until the patient is received in the operating room, when this is to be removed and she is given a final scrubbing with soap and water, after which sulphuric ether is thoroughly applied; then flush with bichloride solution, one to one thousand. If it is to be a vaginal hysterectomy, my plan is to scrub the parts with soap and water and flush the vagina with a one to two thousand bichloride solution.

All assistants in the operating room should have their hands and arms as carefully prepared as the operator himself and be dressed in clean sterile gowns. It was only a few days ago that I saw an assistant scratch his head during the time of a laparotomy and immediately thread a needle and pass it to the surgeon without even washing his hands or immersing them in any solution, and as I was only a spectator, I did not interpose an objection though I feared some infection would follow. The patient died a few days later, but I could not say that the fatal result was occasioned by this carelessness of the assistant. This is one example of many that the operator has to contend with to keep everything aseptic.

It is very essential, if you expect union by first intention, to make your incision with straight, clean edges so that the parts can be brought nicely in apposition. After trying kangaroo tendon for buried suture in the abdominal wall, with all other precautions the same as with my present work, the cases did not do as well, so I have adopted catgut for the buried suture and silkworm gut for the superficial, or the one that is brought out through the skin, and I now find it very unusual to have anything but healing by first intention. The catgut for my work is prepared in the following manner:

Catgut is put into a jar and covered with sulphuric ether and left for twenty-four hours when it is renewed and left for another twenty-four hours. This is replaced by absolute alcohol and allowed to stand forty-eight hours when it is replaced by bichloride of mercury solution, one to one thousand, which is to stand another forty-eight hours, and this is to be replaced by the same strength of bichloride solution and allowed to stand for forty-eight hours more, when it is ready for use and should be kept in the same solution.

In all my cases of abdominal surgery I formerly thought that every wound should be sealed with a ten per cent. iodoform solution, but experience has taught me that results are very much better with my present plan of moist bichloride gauze, one to one thousand, and I do not remove the dressing until the end of the first week. The silkworm gut sutures are not removed until the union seems to be perfect, which is usually at the expiration of two weeks. Another important reason why I favor silkworm gut is, that it can be left for a long time without any particular irritation to the skin. My experience with ligatures in the abdominal cavity, when we have a large mass to tie off, as in pyosalpinx cases, is that I have not yet become very favorabiy impressed with kangaroo tendon, or catgut, for such work, notwithstanding I have tried both, but still prefer the strong sterilized braided silk. I have also learned that the abdominal cavities of many of my cases that were formerly flushed with a six per cent. solution of chloride of sodium, would not now be subjected to the same treatment, for it seems to me that a great deal can be done in cleaning a cavity by the use of sterile gauze which has proven in my hands to be more satisfactory. I will close my paper with a few hints as to my plan of after treatment for the first week.

The patient should be in bed flat upon her back with no pillow; stimulating hypodermic injections, as digitalin, strychnine and nitroglycerine for the first twenty-four hours, also, if required, brandy and milk per rectum. She should have no drinks for the first twenty to thirty hours but moisten the lips with a damp cloth of cold water. Her first drink should be hot water and if this is retained hot milk or beef tea, in small quantities may be partaken, frequently repeated. On the third day, if the stomach is prepared to retain it, I order two drachms of rochelle salts to be given every three hours until the bowels move, and after that I see that they are opened every other day by some mild laxative. I do not favor the plan of giving much morphine following the operation, and with many cases give none. The catheter should be used during the first week unless the patient has no trouble in urinating voluntarily. It is of the utmost importance to have great precaution taken in the use of the catheter that infection is not carried into the bladder or some irritation caused to the urethra. There are many other points that are very essential in the surgical technique in gynecology, but I will leave them open to be brought out in discussion.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, FEBUARY 14, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR FRANK D. SUMMERS read a paper entitled "Surgical Technique in Gynecology." (See page 267.)

DOCTOR CARSTENS: Cleanliness is the *sine qua non* of success. The details of surgical technique may change from time to time and various methods be given trial. I do not use kangaroo tendon now, nor have I employed bichloride for quite a while. I have lately been using chlorine gas, liberating it from chlorinated lime by the aid of carbonate of sodium. Instead of kangaroo tendon I use catgut prepared by dry sterilization. I do not think that silk is good suture to use. It is liable to lead to fistula. The after treatment depends a good deal on the patient. Morphine is necessary in some cases, especially those who have been in the habit of taking it previous to operation.

DOCTOR E. L. SHURLY: I am very glad to hear that gynecologists are beginning to use chlorine. I think it is the most efficient germicide we have. Experiments made in Great Britain show that it is the only perfect antiseptic.

DOCTOR YATES: I only wish to say a word, and that is to remark on the carelessness of the operator in allowing the perspiration to fall from his forehead into the wound. Frequently the fault of the surgeon is laid at the door of the assistant.

DOCTOR SAFFORD: DOCTOR NANCREDE, of Ann Arbor, uses instead of ether, which DOCTOR SUMMERS spoke of as a means of removing fatty material from the skin, a mixture of alcohol and acetic acid (ten per cent). As far as ligatures are concerned, his catgut is treated by high heat. It is practically a dry sterilization.

STATED MEETING, APRIL 21, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR JOSEPH M. MATHEWS, of Louisville, Kentucky, read a paper entitled "Extirpation of the Rectum; or, what Rectums should be Extirpated. (See page 256.)

DOCTOR E. W. JENKS: As a gynecologist I occasionally have something to do with the rectum, but extirpation of the rectum rarely comes in my branch of surgery. I was highly pleased with the remarks in regard to the frequency of syphilis as compared with malignant diseases of the rectum. My own experience is that syphilis is the most frequent cause of stricture of the rectum. I have nothing more to say except to commend the paper of the evening to the thoughtful consideration of the profession, and especially to those interested in surgery.

DOCTOR H. O. WALKER: I am fully in accord with what DOCTOR MATHEWS has said here tonight. I have run the gamut of surgical operations upon the rectum of all sorts and all kinds. In 1870 I did an extirpation of the rectum fully five inches up and after excising the diseased portion pulled the gut down and stitched it to the healthy tissues below. The man lived a year. I have since then made partial excisions of the rectum, dissecting out quite extensive areas of cancerous deposits. Every patient died eventually, one, two or three years following the operation. I have seen patients who, following this operation, have suffered intense agony. I believe in many of these cases of extensive areas of cancerous deposits that a colotomy gives great relief. I did a colotomy in one case, that of a woman, who lived two years with a reasonable amount of comfort. I was formerly averse to colotomy but it is not such a dreadtul condition. It is not such a difficult operation, and with the exercise of cleanliness the person can live with a moderate degree of comfort if the operation is done early enough. I believe, with DOCTOR MATHEWS, that the majority of strictures of the rectum are due to syphilis. The operation that has been done by the essayist here tonight I have performed a number of times. I recall one patient, in whom I removed a part of the rectum, who lived six years. The microscopist said it was malignant, but I questioned that diagnosis. I firmly believe that there are cases of cancer of the rectum which have so invaded the surrounding tissues and lymphatics that any operation that might be made would prove futile.

Doctor Eugene Smith: I would like to ask **Doctor Mathews** if the microscope would not assist us in making a diagnosis in cases of disease of the rectum. Take the case exhibited here tonight, for instance, would not the microscope tell us positively as to whether the condition were tuberculous or cancerous in its nature?

Doctor Mathews: I reported five cases in my work and submitted scrapings from the diseased tissue to a very competent microscopist and he returned a verdict that they were cancerous. The results proved in each one of them that it was not. They are living and well today. As regards the tubercle bacilli, it is well known that in a number of instances the scrapings will contain them and therefore it is my practice to submit them to the microscopist, but it is also well known that in many cases of tuberculosis the tubercle bacilli are not found.

At this juncture **Doctor Mathews** operated upon a patient that had been brought into the hospital with a condition supposed to be a cancer of the rectum. After inquiring as to the history of the case, and making thorough examination, he decided that it was not cancer and proceeded to dilate the rectum with a forcible dilating instrument, and said that dilatation occasionally practiced at intervals as might be necessary would effect a cure.

Doctor Leartus Connor: We are all interested in the pioneers of Kentucky. The speaker of the evening comes to us from the land of **Daniel Boone** and **Ephraim McDowell** and he himself is a pioneer in the field of rectal surgery, and therefore I am sure I voice the sentiment of all the ladies and gentlemen present when I move a resolution of thanks from the Detroit Medical and Library Association for the very scholarly paper that has been presented to us, and for the presence of the pioneer of rectal surgery in our midst.

The resolution was seconded and unanimously adopted.

REPORTS OF CASES.

PRACTICE OF THEODORE A. McGRAW, M. D.

REMOVAL OF SWOLLEN APPENDIX.

This specimen is the vermiform appendix of a young man, a patient of **Doctor Donald's**, who had an attack of appendicitis four months ago and who since then has suffered constant pain at McBurney's point. I found, on operating, no adhesions nor pus but a swollen appendix containing a fecal concretion. At its proximal end there was a scar, which is to be seen in the specimen, occluding its whole calibre and thus preventing the discharge of the contents of the appendix. The wound healed by first intention.

A CASE OF GALL-STONES AND SUPPURATING GALL-BLADDER.

Mrs. X., a Polish woman of fifty years, who understands no English and consequently could give no intelligent history of herself, had suffered for some months from pain in the region of the liver of such an intensity as to make her clamor for an operation. On examination I found a robust woman, with a temperature varying from normal to 100°, and a pulse of 85 in the minute. She had an enlarged liver with a sharp nodulated and hard edge, and in the region of the gall-bladder there was a decided swelling. The region was exceedingly tender and she shrank from the necessary examination. This tenderness and the tendency to fever made me diagnosticate the case as one of gall-stones and inflammation of the gall-bladder, with, however, some reserve, as the hard nodulated liver made me suspicious of cancer. I operated on October 8, and found the gall-bladder inflamed and suppurating, and full of the stones which I now show you. The largest of the stones, which is now broken, was imbedded in a pouch from which I removed it with great difficulty. The gall-bladder was thick, contracted and fragile, but not nodulated. The liver, however, contained hard nodules over its entire surface in front which makes me fear the ultimate result. The patient is doing well in every respect.

PRACTICE OF H. W. LONGYEAR, M. D.

MYOMATOUS UTERUS REMOVED BY VAGINAL HYSTERECTOMY AND THE CLAMP METHOD.

THE fundus of the uterus, containing the larger part of the tumor, was amputated after the organ was anteverted and the fundus drawn into the vulvar opening, and before the upper segments of the broad ligaments were clamped, as the size of the tumor while *in situ* prevented the satisfactory application of the instruments. Another advantage was also gained by this amputation, which I have not seen that other operators have observed. This was the facility it presented for the observation of the degree of arrest of hemorrhage by the application of the successive clamps. The placing of the first instrument arrested the oozing on that side completely, but the one applied on the opposite side failed to be as effective and another was required. Without the oozing of the blood from the cut surface, to aid as an indicator, the parts might have been cut away before the imperfect application of the instrument was noticed. The patient was forty-six years old, mother of several children, menstruated regularly, and suffered with constant, severe pain in the back and left side to such an extent as to incapacitate her for all household duties and confine her to her bed most of the time. It was this history of complete invalidism that induced me to advise her to subject herself to the dangerous operation of hysterectomy, as the nature and size of the tumor, alone, would not, in my opinion, warrant so serious an operation. The operation was performed at Harper Hospital. She is now entirely free from pain.

ECTOPIC PREGNANCY AND FIBRO-CYST OF OVARY.

MRS. J., aged thirty-one years, married twelve years, mother of four children; lost one, he being two years of age. No miscarriages. Menstruated at thirteen years of age, and since then menstrual history normal until last two periods, which were too free. The last period began December 3, then two days late, stopped two days, then began by a sudden gush, which ceased in a few hours, to begin again slightly the day before I saw her, December 15, 1897. Gave history of having had a severe pelvic inflammation six years ago, when she was in bed two months. For the last two weeks she had complained of constant pain across lower part of abdomen. No sudden pain and no faintness. Patient said she thought she was pregnant as she had fits of morning sickness. Examination showed cervix uteri large and soft, situated close to pelvis, and held in this position by a fluctuating mass presenting in the cul-de-sac, which could be also felt in lower part of abdomen. Pain and tenderness located in left side. A diagnosis of ovarian cyst, with possible ectopic pregnancy, was made and the patient directed to notify me immediately if she was seized with sharp pain and faintness. On December 22 and 23 these symptoms occurred, each time after using an enema. The last attack was longer than the first, but the faintness had passed when I reached her. She also menstruated again at this time and passed a small mass of shreddy material. This tended to confirm my diagnosis, but as she seemed so well after this attack and was anxious to pass Christmas with her children, I decided to defer operation, but watched her closely. Her temperature at the time of pain was 99°, and afterward became normal. No untoward symptoms occurring, before the operation was made, at Harper Hospital, on December 27. A small amount of blood was found in the peritoneal cavity; the cyst was quite adherent, but easily liberated after tapping. The fluid contents were thin and of pale straw color. The cyst, which was attached to the left side, was unilocular, and about the size of a football. The Fallopian tube, as you see it in the specimen, was distended and black, the fimbriated extremity spread out and closely adherent to the cyst wall. Close examination will show a separation of one or two of the fimbrian, which was apparently the rupture through which the blood was slowly oozing into the peritoneal cavity. The patient has thus far made an ideal recovery, being free from pain or fever, and feeling the natural relief incident to the removal of such a serious disturbing source to life.

CARCINOMATOUS UTERUS REMOVED BY VAGINAL HYSTERECTOMY AND THE CLAMP METHOD.

This specimen is characteristic of extensive carcinomatous disease, and was peculiar in that the contour of the uterus seemed perfect until its removal was begun, when it fell to pieces as you see it, showing involvement of the whole organ excepting the fundus. The disease involved much of the vagina and a small portion of the bladder which was excised. The patient was fifty-two years old, had not menstruated for eight years, had suffered no pain whatever, but had had occasional, odorless, bloody discharges for five months. The lack of the usual signs of malignancy—pain and foul smelling discharge being entirely absent in this case. The operation was performed at Harper Hospital. Patient recovered.

UNILOCULAR, INTRALIGAMENTOUS CYST OF THE BROAD LIGAMENT.

This specimen has no peculiarity distinguishing it from an ordinary ovarian cyst, excepting that it was sessile, having no pedicle, and being contained within the folds of the broad ligament. Its removal was accomplished by incising the peritoneal covering of the tumor around its circumference at its most projecting point in the abdomen, then enucleating the tumor by stripping the membrane from it. This allowed the tumor to be raised from its bed and its attachment to the right horn of the uterus tied. The cyst had dissected up the pelvic peritoneum in such a manner that the attachment of the descending colon covered a portion of the left side of it. Its contents were thick and grumous as in an ordinary ovarian cyst. The patient was a young woman, twenty-six years of age, mother of two children, and the victim of a previous abdominal section, two years ago, for the removal of some disease of the left appendage, by another surgeon. The operation was performed at the Woman's Hospital. For two days after the operation she complained of great pain in the region of the stomach and kidneys, and her temperature ranged from 101° to 102°. Examination of the urine showed this to be due to renal engorgement, as albumen in large quantity was found. Free use of phosphate of soda in hot water relieved the symptoms in forty-eight hours, the albumen also disappearing and the temperature declined. The urine before operation, on two successive examinations, exhibited nothing abnormal, so that this temporary engorgement was probably the result of the effects of the anesthetic, which was chloroform.

PRACTICE OF J. H. CARSTENS, M. D.

A CASE OF EXTRAUTERINE PREGNANCY.

THIS specimen was removed from MRS. M., April 20. She gave the following history: In April 1896, she menstruated the last time. She did not feel very well for the next three months and considered herself pregnant. In July she had a slight show, and in October, when she considered herself to be seven months pregnant, she had all the pains of the beginning of labor and a great deal of inflammation within the abdomen, but by the use of opiates and by keeping in bed, these symptoms gradually subsided, and afterward, at irregular intervals, she had a show of blood. At the beginning of the year she had another very severe attack of labor-like pain, but the uterus did not dilate, and her physician was very much puzzled. No life was felt after the October attack, but which she claimed she felt before that time. This attack in the early part of the year confined her to bed for six weeks, and as the case was very obscure and puzzling, her doctor sent her to me for diagnosis and treatment. He suspected that it was a case of extrauterine pregnancy, with death of the fetus from a fall at the seventh month, and still, on account of the large, hard, firm tumor, it might also be a simple fibroid, producing symptoms of the condition first mentioned. Careful examination failed to reveal the condition, except that there was a large tumor on the left side, and from the history of the case, I was inclined to consider it extrauterine pregnancy of the broad ligament. An operation was performed April 20, and a large tumor found, which was adherent posteriorly to the rectum and cul-de-sac by not very firm adhesions. These were loosened and the tumor brought out. It was in the folds of the broad ligament, and the latter was ligated in section and the growth removed. While cutting it away, the sack was opened as seen here, and it was only slightly increased afterward. I exhibit the sack, containing the fetus and placenta, contracted and evidently between the sixth and seventh month of gestation. It is evident that rupture took place into the broad ligament, was surrounded by peritoneum, and hence the ordinary hemorrhage did not take place and consequently a positive diagnosis could not be made earlier. The woman made an uneventful recovery, and I simply report the case at it is a rare one.

REMOVAL OF VERMIFORM APPENDICES.

Case I.—This is a vermiform appendix which I removed from Mr. G., March 28. He was a strong, hearty young man, an athlete, and had had a mild attack of appendicitis before. The disease was of forty-eight hours' duration, and became gangrenous, accompanid by all the characteristic symptoms. He made an uneventful recovery.

Case II.—This appendix was removed from Mr. M., March 17, during the interval. He had three attacks, the last one being more severe, and he thought it advisable to have the offending body removed.

Case III.—This is another appendix, removed from Mr. McD., March 29. The case was suppurating, the appendix being perforated

Another case I could not find, which made the eighteenth case since the first of January, with three deaths, most of the cases being operated upon during the acute attack.

OPERATION FOR STRANGULATED UMBILICAL HERNIA.

This lady, Mrs. S., was very fleshy and had had an umbilical hernia for some years. Suddenly it became strangulated. occasioning vomiting, obstruction of the bowels, et cetera. I was called in consultation and had the patient removed to Harper Hospital, where I operated on her April 29. I removed a large part of the skin, the whole sack and part of the omentum, and made a flap-splitting operation of the ring, which was sewed up with buried kangaroo tendon.

TWO CASES OF HYSTERECTOMY.

This specimen is from a case of abdominal hysterectomy, operated upon April 30, and in which there was extensive inflammation of the tubes and ovaries.

This specimen was obtained by vaginal hysterectomy. I removed the tubes and a large dermoid tumor, extensively adherent. You can see the hair and bony growths on the wall of the tumor, and I simply exhibit it to show what remarkably large growths can be removed by vaginal hysterectomy.

* * *

These cases all recovered, but that does not say that I had none die, as in some of the cases operated upon during the last two months, brought from the country, the family physicians claimed the pathological specimens. Others, being subject to microscopic and bacteriological examination, I could not bring down, and I only picked out a few cases, which I thought would teach particular lessons.

PRACTICE OF CHARLES D. AARON, M. D.

AN INTERESTING CASE OF HERNIA EPIGASTRICA.

Mr. H., a clerk, aged twenty-nine years, consulted me for stomach trouble. He gave the following history: He had always been in good health until three years ago when he was taken with an attack of typhoid fever. It must have been a severe attack, for he says he was three months convalescing. From this time he has never been entirely well. He vomits very easily. There are times that he eats well without vomiting and again he will vomit even when he has not eaten. Liquids give him distress just as solid foods do. During the last three years he has been constantly under the care of physicians. Some have told him he had nervous dyspepsia; some chronic stomach catarrh, others ulcer of the stomach, erosion and various other affections. The last physician has been treating him for stricture of the esophagus, and passed a hard esophageal tube daily for the past eight months. The patient has been constantly getting worse so that life became intolerable to him. I saw him the first time March 13, 1898. He was well nourished, but complained of distress and dull pain immediately after eating. There was great difficulty in swallowing heavy foods such as meats and bread. His appetite was poor and tongue slightly furred. Suddenly without nausea there would be a gush of his stomach contents into his mouth and he would vomit. This belching of gas and food continued for three years. A week before consulting me, he says, he vomited a small amount of blood. His bowels were constipated. Upon physical examination I found his heart and lungs normal. By palpation, a little lower than midway between the xiphoid cartilage and the umbilicus, I found a small lobulated mass about the size of a marble. It was not painful upon pressure and did not give the usual signs of hernia by coughing, et cetera. By careful examination I was unable to find a stricture of the esophagus. A test-breakfast March 17th showed hydrochloric acid —, pepsinogen +, rennet zymogen +, erythrodextrin +, lactic acid —. An examination of his urine showed an excess of phosphates. My diagnosis was hernia epigastrica and that the symptoms including difficulty in deglutition were reflex. Doctor T. A. McGraw who saw the case March 21st agreed with me. March 22 Doctor McGraw operated at Saint Mary's Hospital. A vertical incision was made over the protuberance. Passing through the skin, Doctor McGraw came upon a tumor adhering to the subcutaneous areolar tissue. This had to be dissected out very carefully, for the pedicle which is always very small, could easily be cut and fall into the abdominal cavity where hemorrhage might ensue. After carefully separating the mass, the pedicle proved to be continuous with the omentum. The breadth of the opening in the linea alba was about a line. Care being taken that no part of the tumor be caught in the opening, the pedicle was ligated, the tumor excised and the stump allowed to fall into the abdominal cavity. The opening in the linea alba and peritoneum was sutured and a few stitches in the skin finished the operation which was made as dexterously as it was successful. The tumor consisted entirely of a mass of lobulated fat and our diagnosis of subperitoneal fatty epigastric hernia was verified. I saw the patient on the 27th or five days after the operation. He has not vomited since the operation and has not had any of the stomach symptoms he had had before. He told me that he felt better than he had in three years and that he ate meat and potatoes for breakfast without any difficulty. This he had not been able to do for two years previously. This case illustrates the care that is necessary in making a diagnosis for stomach disturbances. Hernia epigastrica may cause many stomach symptoms and spasm of the esophagus, simulating stricture. In *The New York Medical Record* for November 20, 1897, I reported a very similar case. This case was operated upon also by DOCTOR MCGRAW in 1892. It is now six years since the operation and the patient has not had any digestive trouble.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, MARCH 22, 1898.

THE PRESIDENT, DAVID INGLIS, M. D., IN THE CHAIR.
REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR E. A. CHRISTIAN, of Pontiac, Michigan, read a paper on "Periodical Insanity—A Resumé of Some of the More Important Points." (See page 252.)

DOCTOR EMERSON: I have been startled, not at the novelty of the paper, but because I have been writing on a similar subject and have used almost the same words. My subject was "A Few Remarks on the Insanity of Pubescence." This form is derived from some previous condition of the parents, such as phthisis, alcoholism, et cetera, a form showing the signs of heredity and degeneration. A large proportion of these cases result in periodical insanity. Yet with proper care many cases of pubescent insanity can be avoided or cured; improperly treated they are stepping stones to the periodic form. I have in mind a number of instances in which there was every indication that the patient would be insane, but they were taken out of school, made to engage in active play, and work, and so they avoided the subsequent stages. It was well put that the hereditary taint is not always an insanity or a particular form of disease. In early childhood the taint may show itself in morbid conditions like simple mental obliquities, neuroses, night terrors, et cetera. If we find these in early life, they are important. We should never tell patients with conviction that these are trivial matters, for they are always serious. The child is not necessarily an epileptic, but he is not up to the normal tone. There is a connection between infantile convulsions and later epileptiform convulsions, since there is the same impaired nervous organization from an impaired heredity.

DOCTOR HITCHCOCK: I have enjoyed the paper, but I cannot add much to it. Since my asylum experience I have been accustomed to keep in mind types of patients. I recall one of periodic or double insanity. For weeks he would be depressed and have the appearence of unworthiness; then get gradually livelier, and more animated; then hold his head higher and seem quite a different person from what he was in the depressed state; but would become only mildly maniacal. The excitement would gradually wear off. Most of the cases I have seen have been mildly maniacal and never very wild.

DOCTOR MANTON: While I do not know much about mental diseases, the report of a cure of this form of insanity at the menopause may have a bad influence, for I am afraid there will be many attempts by operating gynecologists to cure by bringing on the menopause.

DOCTOR METCALF: I have not been disappointed in my expectation of hearing a good paper. While listening to the paper and discussion, especially the remarks of DOCTOR MANTON, I recall the case of a woman who had had five attacks. The first three were at a menstrual period. Several months before the tubes had been removed, but she had remaining a sanguineous flow. With this came a stage of excitement. After this there was about three weeks of mania. Following a digital examination she went into a cateleptic condition. The uterus was subinvoluted. I did a hysterectomy, and for a few days she remained apathetic but after month she became rational, and has remained so.

Doctor Inglis: There are many suggestive points in **Doctor Christian's** paper. One statement, it seems to me, deserves discussion, that is, that certain authors attribute varying stages of circular insanity to vasomotor changes. That this is the true explanation I do not believe. That vasomotor conditions vary in the opposed states of exaltation and depression is undoubtedly true but I believe these changes of blood pressure and capillary tone ought to be looked upon more as results of changed nervous states than as causes. That this is so seems clear when we consider other bodily states. While it is true that a sudden anemia, such as that produced by a grave loss of blood, can produce convulsions, yet we are everyday witnesses of the fact that the most marked anemia, a state in which the cerebral blood supply is necessarily very poor, causes no mental depression whatever. Again, we meet men who go about their daily work with every sign of turgid, hyperemic, plethoric circulation, yet these men are not in any mental exaltation. Our neurasthenic patients are subject to extraordinary rapid vasomotor variations and while they complain of hot flushes or cold legs—while the vasomotor disturbances constitute no small part of their woes—yet we cannot trace changes of mental state to vasomotor changes. I believe the fundamental difficulty lies in the cerebral protoplasm itself. In profound anemia, in the stage of extreme exhaustion in consumptives, the cerebral protoplasm still keeps up its own nutritive activity and the brain cells take up from the poor and scant blood supply their necessary food and our chlorotics or consumptives maintain an even mental balance. If changing vasomotor tone could change cerebral activity the treatment of insanity would be vastly simplified. The real problem is to change the inherent activity of the protoplasm of the cells. That is a more obstruse and difficult problem. **Doctor Christian** rightly regards the subjects of recurrent insanities as essentially degenerates. The appreciation of this fact ought to make the family physician take strong ground in insisting on such environment, of patients of this sort, as will tend to maintain an even balance of nervous use and nervous expenditure. A boy showing even mild symptoms of mental aberration at pubescence ought to have a career marked out for him quite different from that which might be planned for him otherwise. Parents do not readily recognize such a necessity until it is too late. The physician must be strenuous and that as early as possible.

Doctor Christian: While my paper dealt with circular insanity yet all periodic insanity is not circular because the cycles are not always periodic. I spoke of the circular form because it is the more interesting. Many victims of this form get the periodic attack, consult the general practitioner, yet never know they are insane. They are treated for neurasthenia, especially if found in the stage of depression. I simply said that in a case that had been operated upon the cycles had not recurred for two years. It is possible by education to do a great deal to modify the condition and possibly to abort it. I agree with **Doctor Inglis'** idea of the importance of vasomotor factors. We jump at conclusions too easily.

SAGINAW COUNTY MEDICAL SOCIETY.

STATED MEETING, MARCH 18, 1898.

The President, S. C. J. OSTROM, M. D., in the Chair.
Reported by M. C. L. KITCHEN, M. D., Secretary.

At a regular meeting of the Society on March 28, 1898, the committee appointed to investigate the charges preferred against Doctor W. S. Connery reported as follows:

To the President of the Saginaw County Medical Society:

Sir—The committee appointed by you in accordance with a resolution of the above named Society made on March 11, 1898, the duties of such committee being to investigate and report on charges preferred against W. S. Connery, M. D., a member of said Society, beg leave to report that after notifying the said W. S. Connery, M. D., of their appointment, time and place of meeting, and requesting him to appear before your committee and make answer to said charges, he has failed to answer either by presence or by letter.

After reading the article published in the *New York Medical Record* of January 8, 1898; also the apology by the editor of the *Medical Record* for publishing the same, in the issue of February 26, 1898, made to Sir William Broadbent, the author of said article on "Angina Pectoris," published in the *Medical Record* of January 8, 1898, by the said W. S. Connery, M. D., as his original work, and said by him to have been read before the Saginaw County Medical Society by the said W. S. Connery, M. D., we can come to no other conclusion than this, namely, that the said W. S. Connery, M. D., is guilty of plagiarism in publishing as his own production the said article on "Angina Pectoris;" also guilty of misrepresentation in saying that this paper was read before the Saginaw County Medical Society when it had not been so read before the Society; also in claiming that he was at that time president of the Saginaw County Medical Society, which he was not at the time said article on "Angina Pectoris" was published in the *Medical Record*, namely, January 8, 1898. He was thereby guilty of falsehood and misrepresentation and conduct unprofessional and ungentlemanly, and prejudicial to the best interest and reputation of the Saginaw County Medical Society, of which he is now a member; also his nonappearance before your committee would seem to be a confession of the truth of the charges preferred, and we your committee believe him guilty as charged.

Samuel Kitchen, M. D.,
Eugene W. Davis, M. D.,
T. M. Williamson, M. D.,
Committee.

Dated Saginaw, Michigan, March 24, 1898.

Upon motion the above report was received and adopted and the committee discharged.

It was moved by Eugene W. Davis, M. D., and seconded by J. W. McMeekin, M. D., that W. S. Connery, M. D., be and is hereby expelled from membership in the Saginaw County Medical Society for unprofessional conduct, and that a copy of the above report and the action of the Society thereon be furnished the *New York Medical Record*, The Physician and Surgeon and *The Medical Age* of Detroit, Michigan, for publication.

The motion was carried by a unanimous vote.

EDITORIAL ARTICLES.

IS DRUG THERAPY DECLINING?

Argument and statistics are quite unnecessary to place within confidence of belief the statement that more drugs are used now than ever before. The enormous expenditure of both capital and labor, that seems to find satisfactory remuneration in the drug business, is evidence of its truth. Never before perhaps has competition among both manufacturing and trading pharmacists been so intense. In their endeavor to outdo one another they have literally ransacked the whole world for new remedies, made almost every possible effort to discover the quintessent power of all known drugs and place them before the public in the most desirable forms. Truly this is an age of drug therapy. And yet, paradoxical as it seems, the observing editor of *The Pharmacologist* sees in current medical literature indications of a waning interest in drug therapy. He believes "it to be true that physicians generally are prescribing less than formerly." In casting about for an explanation of his belief, he disclaims any fault of the pharmacists, but inclines rather to the effects of two influences acting within the medical profession. One inference is that motives of self-preservation have contributed to this change. The common practice of self-medication by the public has, it is suggested, driven "the physicians to seek for other means of combatting disease than that afforded by drugs." Another reason alleged with more assurance "is that drug therapy is now suffering a natural reaction from a period of overactivity." Without discrediting in the least the views of our contemporary, with whom we agree as to the influences at work and their inevitable results, it may not be out of place to consider this interesting question from our point of view.

Progress, which is only another term for the onward march of evolutionary changes, is manifesting itself in medical therapeutics in a revision of the various therapeutic remedies which have thus far become known. Time was when drugs had precedence over all other means of combatting disease. Ignorance of pathological changes, psychic phenomena and the natural enemies of the human kind forbade the use of other available means. But now the light of knowledge has been turned on. Guided by pathology, bacteriology and other kindred sciences, surgery has become a therapeutic power of wonderful importance. The application of this power renders curable diseases once considered incurable and only slightly ameliorable by the use of drugs. The recent development of suggestive therapeutics, medical gymnastics, hydrotherapy, electrotherapy and other useful therapeutic resourses afford other offests to drugs and a more just estimation of their real value. It is not the real but rather the apparent and comparative value of drugs which has been changed. The former is permanent and according to its degree will ever sustain our interest. The medical profession, yes the public, demand superiority in value in the selection of therapeutic measures. They demand the use in every possible case of specifics. Whichever remedy, whether chemical, surgical, electrical or any other single one or a combination, shall possess the quality of specificity in the highest degree and be available, that remedy will take precedence over all others.

This is the solution of the problem. The utility of other means has proven the limitations of drugs and changed their comparative value. This process of revision and election, now going on, will continue until the specific use of all remedies—the perfection of the sciences—has been discovered.

THE EXPLORATORY INCISION—A JUSTIFIABLE PROCEDURE.

THE exploratory incision is essentially a product of modern surgical art. The manifold dangers, incident to any and all operations, still further multiplied in former generations through ignorance of the laws of wound healing, must have effectually debarred this from within the pale of justifiable procedures. With us its status is different. We presume to comprehend and control most adverse influences so that serious surgical complications shall not ordinarily arise. Some few overconfident and, to that extent, untrustworthy surgeons feel free to go further, and actually promise their hoodwinked patients that "the" operation is not at all dangerous, and that there is no doubt they will be entirely well in a few days. We believe it true that the profession as a whole do not feel justified in taking this extreme stand. The need for exploratory operations is practically a confession of this. That they are valuable, however, is now quite generally conceded. They have been the means, directly and indirectly, of saving hundreds of lives. Indirectly they have enabled correct diagnoses to be made and rational treatment to be instituted in many otherwise obscure cases. They have also been of direct benefit in not a few instances to the surprise of the surgeon as well as the delight of the patient. Prominent among these have been cases of tuberculous peritonitis, in which the mere opening of the abdominal cavity has been followed by almost miraculous results. A series of cases, to which **Mr. Frederick Treves** refers in the *British Medical Journal*, "deals with 308 examples of this form of peritonitis treated by operation, and shows a percentage of cures estimated at 69.8 per cent., of which number 33.4 per cent. may be regarded as complete recoveries." He states further that "an examination of this record shows that the most favorable results on the whole have been those attending the mere opening of the abdomen." The utility of this measure has been shown, though not clearly explained, in the shrinking and occasional disappearance of malignant growths; in the relief following abdominal section in so-called "nervous" cases, and in other anomalous conditions of the abdominal viscera.

The peculiar circumstances under which this measure is indicated, and the agency of its application, have not been clearly defined. As to its indication it is evident that recourse should be had in each case to the surgeon's judgment as in every other operative procedure. The surgeon alone will best comprehend the *tout ensemble* of the situation. In this respect each case will be a law unto itself.

The facts that exploratory operations are incomplete, or that they frequently act along other than purely surgical lines, furnish no sufficient excuse for their performance by a young practitioner or one inexperienced in the surgical art. Although the law does not recognize separate practices of medicine and surgery, there is implied the existence of special abilities or skill—the result of experience. It is a noteworthy fact also that accidental abdominal injuries usually do better under palliative treatment than under radical treatment by inexperienced operators.

Under these circumstances, and in the light of experience and a high conception of justice, does it not behoove him who exposes a human life to the risks of an exploratory incision to have first exhausted every available resource to explain away the obscurity in the case, and then fortified himself with every possible advantage tending to the success of the operation? The manner in which this question is answered in any given case will either justify or condemn the procedure.

ANNOTATIONS.

THE RECENT STATE MEETING.

The Michigan State Medical Society convened according to schedule May 5 and 6. The attendance was not as large as on some previous occasions and yet, considering the many adverse circumstances existing at the time, the State was generally well represented. The visiting members found the local committee and the Detroit members well prepared and on the alert for their comfort and entertainment. Receptions at the Cadillac and Russell House on Wednesday evening and at Harmonie Hall Thursday evening, with an entertainment consisting of music, sparring and "cake walk," were pleasurable features of the occasion. The chief interest of the first day's work centered in the symposium on septic diseases of the abdomen and pelvis. On the second day the papers partook of a more general character. The election of officers resulted as follows: President, E. L. Shurly of Detroit; first vicepresident, A. W. Alvord of Battle Creek; second vice-president, Rush McNair of Kalamazoo; third vicepresident, D. W. C. Wade of Holly; fourth vicepresident, J. Van der Laan, of Muskegon; general secretary, Collins H. Johnston of Grand Rapids; treasurer, Charles E. Hooker of Grand Rapids. Kalamazoo will be the next place of meeting.

OOPHORECTOMY FOR INOPERABLE BREAST CANCER.

THE relation between ovarian and breast tissues, taken in connection with the cases reported by DOCTOR BEATSON and MR. BOYD, led W. WATSON CHEYNE to repeat their experiments. Two married women, thirty-four and thirty-three years of age respectively, patients with advanced and inoperable breast cancers (the first having been already subjected to two operations), submitted to the effects of oophorectomy. Recovery from removal of ovaries and tubes was in each case uneventful. Concerning the malignant condition in the first case, he states in the *British Medical Journal:* "She was discharged from the hospital on December 23, 1896; at that time there seemed to be distinct improvement in the cancerous growths; the ulcer undoubtedly cicatrized to a considerable extent; the mass in the axilla felt softer and not quite so adherent; the glands in the neck were noticeably smaller and the patient was in excellent health." Improvement is reported to have continued during the following four or five months, when the growth began again to increase. In the second case improvement was at the time thought to follow upon the operation, but it was slight, and latterly disappointing. The patient succumbed in five months. In comment the surgeon remarks: "The result of these two cases, which were typical cases in young women where the ovaries were still active, and where, therefore, their removal, if of advantage, should have produced the most marked results, is extremely discouraging, and I doubt if it is worth while going on with the procedure." This opinion appears to tally with the results in the other reported cases. The effect of the removal of the ovaries is at best of only short duration and in some instances inappreciable.

TOTAL ABSTINENCE—A MODERN IDEA.

INEBRIETY is not a state or disease peculiar to modern times. Ancient literature teems with illustrations of human depravity of the Bacchanalian type and exemplifies drunkenness in men and gods. We find similar conditions among men today. There is the same need of cure and prevention. It is in the latter that the contrast between the ancient and modern appears more marked. According to WILLIAM L. BROWN in, *The Quarterly Journal of Inebriety*, total abstinence took a very subordinate place in the ancient philosophy. "They aimed rather at promoting a physical condition which fitted the drinker to indulge at will without harm to himself; they tried to produce in the drinker 'immunity' from the effects of alcoholic poisoning, and failing that, to remedy the unhappy conditions which followed over-indulgence." It would appear the ancients had a conception of the need of strong drink. It is interesting to note the pains which they were at to enable them to indulge with impunity in harmful beverages. The use of wormwood in raisin wine, hops, crocus, "bitter roots and mullet," herb rue, vinegar, resins, boiled cabbage, leeks, and porrets, "faire water" with flavoring ingredients of various kinds, and the wearing of wreaths, crowns, jewels and certain articles of dress were calculated to that end. Likewise roasted onions and African snails were employed to stimulate their cloyed appetites. Once on the symptoms were as curiously treated by remedies "to eliminate or drive out the fumes." Among these is mentioned one called "a hair of the dog that bit you." The author states that "probably the first liquor law of this country (Great Britain) was the canon of SAINT GILDAS THE WISE (latter half of the sixth century), which, at the close of the sixth century, sent the drunken monk supperless to bed." From this time on a gradually severer form of penance was required until there arose the custom of "drinking to the peg." Through these and the exactions of the Sumptuary Laws, the jacket, public ducking, fines, stocks and the gaols has the idea of prohibition been developed to its status at the present time.

UTERINE FIBROMA AND THE MENOPAUSE.

THE impression prevails more or less that the occurrence of the menopause favorably influences the growth of uterine fibroma. Some few cases have appeared to substantiate this opinion. In other cases, however, the reverse has happened. Tumors have now and then appeared to grow even faster after the change of life. Frequently, as DOCTOR J. T. JOHNSON has pointed out in *The National Medical Review*, uterine fibromata prevent the establishment of the menopause at the usual age, and tend to not only keep up the menstrual losses but also cause exhaustive intermediate hemorrhages. The bearing of these facts upon treatment is significant. Hysterectomy for uterine fibroma is ever a grave operation, especially in delayed cases in which extensive adhesions have formed; and yet DOCTOR JOHNSON remarks that "the mortality of this operation, when uncomplicated by malignancy, in good hands and in favorable environment, should not be more than five per cent." If this estimate can be fairly maintained the outlook for this affection, subject as it is to malignant degeneration, is more encouraging.

CONTEMPORARY.

UNITY AND COOPERATION: WHAT THEY MEAN TO US.

[THE AMERICAN GYNECOLOGICAL AND OBSTETRICAL JOURNAL.]

IN suggesting, urging and explaining to the profession, month after month, this necessary and most desirable object, we realize that we have undertaken a very large contract. How large a contract is best realized by the profession itself. But in the exigency of our present circumstances as medical men and in the glaring need of self-protection and radical change lies our hope of success. Already this journal has received substantial encouragement from many of its subscribers, who sympathize with it in its efforts, and from many of its contemporaries in medical journalism also, who have fallen into line and urge, as we do, the necessity of combination to maintain our rights and to protect and further the interests of the profession.

The first question to be asked and answered is: What is the character of this proposed unity? The second: How shall this unity be obtained? The third: In what will combination better our condition, individually and collectively?

The answer to the first question is not far to seek. It is contained in the object lesson presented to us by every combination of civilized men except ourselves, who have certain interests in common and a common aim to be obtained. This principle of combination for mutual protection and common advantage underlies the whole scheme of society. But in what does it consist —what is its essential characteristic? It is a willingness, as a recognized necessity, on the part of each member *to sacrifice a small portion of his apparent and immediate personal advantage for the sake of the good of all the members.* What each man gives up as an individual he gains again as a member; but, far more than this, he has a share in the accumulated contributions of all the other members as well. This, the *secret* of combination—a secret, truly, to us though all the rest of the world has discovered its value—is the very contradiction of the narrow, stupid policy which controls us as individuals now; which was that of the primordial man, if we may believe geologists, who lived by himself, fought and struggled by himself, conquered or was conquered, until at last he took a lesson from the beasts of the field and learnt the art of combination with his fellows.

At present, with us, each man hugs himself if he gain a miserable little advantage to the loss of his fellow practitioner—a patient gained, a hospital appointment secured, a puff of personal advertisement from some of the lay caterers to professional discord. In his selfishness and distrust he cares nothing that the patient may belong in equity to another, that in accepting the hospital appointment he may be expected to betray the rights of his brethren by the support of spurious charity nor that the graciously-tendered lay advertisement must be paid for out of the pockets of the profession. He virtually says: "I am all right; to hell with the rest." It is true that because he is "all right" many others are all wrong; but what of that? He stupidly forgets that, when the next man becomes "all right," he himself will be as mercilessly consigned "with the rest." It is indeed the dictum of the primordial man, with a change in verbal expression—a case of atavism at long range!

We have our medical societies; but what are these except places for the exchange only of medical facts and opinions? How seldom are our vital interests ever considered therein; and when they are, is not a spectacle always afforded to an amused public of puerile selfishness, discord and lack of organization?

If we would combine, each man must learn to *trust* his fellow practition
and, that the latter may not take advantage of this confidence, he must
taught to realize the might of public opinion and to fear it. And this brings
to the answer to our second question: How shall this unity be obtained?

To obtain unity the initiative must come from the *medical press* and this ca
never be given until the press be entirely controlled by medical men themselve
Hence this is the first desideratum, the prime necessity—the withdrawal of th

medical press from the ownership and control of lay-publishing houses and its earnest support and encouragement *financially*, that is, a preference in subscription and the prompt payment therefor, under entirely medical ownership and influence. Only thus can our press become imbued with one guiding motive—the good of the profession. Only thus can it become united itself and show the way to the profession at large. It will then be the mouthpiece and the advocate, the censor and the defender. It will be the bond between all our societies and enable these to act in concert all over the country; thus creating a public opinion whose universal power and might no self-seeking trickster nor selfish betrayer of our rights will dare to resist. There could be no scandalous hospital and dispensary abuse under such circumstances and the interests of the profession could not be sold for place and power by men in our own ranks. Our medical societies must accomplish the work of union; but they cannot accomplish this unless united and upheld and their decisions enforced by the voice of a medical press entirely under the control of medical men.

And now we begin to hear the answer to our third question: In what will this combination better our condition, individually and collectively?

With medical societies united in a common desire and intention to pursue one accepted policy—the advancement and common interests of the profession at large and with a united press, under medical control, ever ready to make known their decisions and express their wishes—with the two essential parts of popular government, the legislative and the executive, within our grasp this question almost answers itself. It needs only imagination enough to think of the things we know should be and are not; the things we realize we should have and have not; all those objects to obtain which we must daily expend energy and money, in pursuit of our profession, without today any adequate return. Merely to start this thought, we will mention a few of our needs, Let every man fill out the list from his own experience; it is not difficult. We have already shown what the loyal and financial support of a medical press under medical control would do for us, how it would bring back a hundred fold the few dollars cheerfully and promptly invested in subscription. So let us consider the subject of the publication of medical works under the same control.

Instead of paying the highest price obtainable, consistent with the policy of ready sales, as we now do, and instead of an author receiving the smallest possible compensation for his work, while the great bulk of the profit from its sale goes into the pockets of lay publishers, this condition of things would be reversed. Unless our books, thus published by medical men, were sold to us at the lowest available price and unless medical authors received such compensation as would encourage them to devote their time and best energies to their work, such publishers would be merely tradesmen, not medical men, and would lose all reason for their existence. The essential difference between the two is at the medical man lives *by* the profession and the tradesman *on* it. Take r hospitals and clinics—that endless theme of outrage: does any one doubt e need of honest medical control there or that our control would soon become solute and universal, were we united in demanding it? Finally, let us conler the druggists, wholesale and retail; have we no complaint in that quarter? e we not forgetting how to write prescriptions and have we also forgotten that ce they were a necessary and profitable part of our practice and that our patients came back to us to renew them? It is not difficult to see how our condition might be bettered if the influence of a united profession were brought to bear upon the drug trade also.

And so each man can add to the long list of needs, whose remedy lies in unity and cooperation. This combination is the one thing needful, as it is the one thing we lack.

MEDICAL NEWS.

THE GATHERING OF THE CLANS.

Several national medical organizations will hold annual meetings in Denver the second week in June. They comprise the American Medical Association, the American Academy of Medicine, the American Medical Editors' Association, the American Medical Publishers' Association, and the Association of American Medical Colleges. The number of medical reunions on this occasion will be still further augmented by the annual meetings of the Rocky Mountain Interstate Medical Society and the Colorado State Medical Society. The preliminary announcements of these guilds, as far as issued, promise much of profit and pleasure to visiting members, and indications are equally assuring that the gatherings will be numerically successful. The unprecedented reduction in transportation rates certainly shows that the railroad companies have done their share toward insuring an auspicious event. It now devolves on the profession to manifest its appreciation of this liberality by a large attendance. The routes by which Denver may be reached are several, but none more comfortable and convenient than the picturesque Santa Fe is offered for the trip from Chicago. This road operates its own track from Chicago to Denver, and possesses many other advantages, of historic and scenic interest, not enjoyed by any competing line. "To travelers of the present time the Santa Fe route provides both luxury and safety en route. Pullman palace sleepers, free reclining chair cars and modern day coaches comprise the equipment of its through vestibuled Colorado trains. Safety is assured by the heaviest of steel rails and a stone ballasted roadbed. Automatic block signal system and abolition of grade crossings form additional safeguards." Attention is called to the announcement of this road on pages 8 and 9 of this issue. The train over the Santa Fe will leave Chicago Saturday evening, June 4, at 6 o'clock, arriving in Denver Monday forenoon. An earlier or later train may be elected at prevailing reduced rates.

MORE DISCIPLES OF AESCULAPIUS.

The Department of Medicine of the Detroit College of Medicine held its twenty-ninth annual commencement exercises at the Auditorium Thursday May 12, 1898, at 7:30 P. M. The faculty address was given by Doctor Frederic W. Robbins, and the general address by Mayor W. C. Maybury, of Detroi. President Sidney D. Miller administered the oath and conferred degrees upon the following candidates: H. G. Arnott, R. B. Bell, J. T. Bird, E. R. Borley A. M. Campbell, D. A. Campbell, L. H. Chamberlin, T. H. Cooper, R. S. Dupont

T. J. Foster, G. H. Frace, A. J. Gies, R. W. Griswold, C. E. Hood, R. L. Kennedy, H. W. Landon, J. W. McCready, J. McGillicuddy, J. C. McGregor, F. W. McNamara, N. P. Nims, J. A. Reeder, J. C. Rutledge, G. A. Smale, H. S. Smith, J. W. Toan, G. A. Twrziskie, J. G. Veldhuis, C. E. Viertel, H. I. Wallace. The medal was presented by Doctor E. C. Skinner to A. Milton Campbell. A banquet was tendered the graduating class and the alumni at the Cadillac after the exercises.

MINOR INTELLIGENCE.

THE Upper Peninsula (Michigan) Medical Society will hold its third annual meeting at Iron Mountain, Wednesday, June 29, 1898, under the presidency of Doctor William T. Carpenter. Doctor Beverley Drake Harison, of Sault Sainte Marie, is the secretary.

THE American Gastro-Enterological Association met in Washington City on May 3. Several papers were read and discussed. President, Doctor D. D. Stewart, Philadelphia; first vicepresident, Doctor Max Einhorn, New York; second vicepresident, Doctor John C. Hemmeter, Baltimore; secretary and treasurer, Doctor Charles D. Aaron, Detroit; councillors, Doctors Henry L. Elsner, Syracuse, A. P. Buchman, Fort Wayne, and F. P. Murdock, Pittsburg.

ACCORDING to the report by the State Board of Health for April, 1898, the diseases arranged in order of greatest prevalence during the month were as follows: rheumatism, influenza, neuralgia, bronchitis, tonsillitis, pneumonia, inflammation of kidney, consumption (pulmonary), diarrhea, pleuritis, measles, intermittent fever, erysipelas, remittent fever, inflammation of bowels, scarlet fever, typhoid fever, whooping-cough, dysentery, puerperal fever, inflammation of brain, cholera morbus, cerebro-spinal meningitis, diphtheria, membranous croup, cholera infantum and small-pox.

PLANS have been presented for a new cottage at the Home for the Feeble Minded at Lapeer, and for a proposed new cottage dormitory at the Upper Penninsula Asylum for the Insane at Newberry. The State Board of Health have approved the plans, and at their meeting held May 13, 1898, directed the preparation of a statement of the best systems of house drainage, heating and ventilating, designedly to aid the several superintendents and Boards of Control of state charitable, penal, educational and reformatory institutions in Michigan in preparing plans for the construction of buildings after the best modern sanitary methods.

RECENT PUBLICATIONS.

REVIEWS.

MEDICAL JURISPRUDENCE AND TOXICOLOGY.*

THIS is an intensely interesting and important subject and yet the majority of both the medical and legal professions have grossly neglected it. This may be due in part, doubtless, to the general impression that it is difficult of comprehension. It is true most of the treatises are too voluminous for general use. This one fortunately is brief. It presents the subject concisely and yet it is singularly complete. It is intelligible and readable alike to student and practitioner both of whom will find it also a handy reference book.

*By John J. Reese, M. D., late Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania; late President of the Medical Jurisprudence Society of Philadelphia. Fifth edition, revised by Henry Leffmann, A. M., M. D., Ph. D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania; Pathological Chemist to the Jefferson College Hospital, Philadelphia. P. Blakiston, Son & Company, Philadelphia, 1898. Price $3.00.

ESSAYS ON ORTHOPEDIC SURGERY.*

THIS small volume of essays on the scope, development and outlook for orthopedic surgery is both interesting and valuable. It is written in a pleasing and scholarly manner, and most clearly defines the relation of orthopedic to general and operative surgery. The application made to gynecology as a specialty is to the point. The author's dignified attitude is to be commended.

*By Newton M. Shaffer, M. D., Surgeon-in-Chief to the New York Orthopedic Dispensary and Hospital; Clinical Professor of Orthopedic Surgery, University of New York City (Medical Department). D. Appleton & Company, New York, 1898.

RETINOSCOPY.*

THIS little manual of less than an hundred pages gives an eminently clear and concise exposition of the shadow test method of estimating ocular refraction. This edition, the second within a year, has been carefully revised and enlarged. It contains thirty-eight illustrations, twelve of which are in colors. Postgraduates as well as students will find this a valuable aid in this subject.

*By James Thorington, M. D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine; Ophthalmologist to the Vineland Training School for Feeble-Minded Children; Ophthalmologist to the Methodist Episcopal Orphanage, et cetera. P. Blakiston, Son & Company, Philadelphia, 1898. Price $1.00.

ACCIDENT AND INJURY.*

THIS volume opens with an introductory description of the usual methods of examination of injuries. Part I treats of the organic effects of injury to the nervous system. Part II is concerned with the functional effects of injury—the traumatic neuroses, traumatic neurasthenia, traumatic hysteria and some unclassified forms. Malingering is considered in Part III, and the volume closes with Part IV on the treatment of the traumatic neuroses. The relation of injury and shock to diseases of the nervous system is primarily of importance to the physician, but by reason of its frequent association with questions of liability it obtains also a legal prominence. This work embraces in a correlated form a mass of otherwise scattered literature and in this respect is unique and a decided addition to the publishers' "Medical Library."

*By Pearce Bailey, A. M., M. D., Attending Physician to the Department of Correction and to the Almshouse and Incurable Hospitals; Assistant in Neurology, Columbia University; Consulting Neurologist to Saint Luke's Hospital, New York City. D. Appleton & Company, New York, 1898. Price $5.00.

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

CONSERVATISM IN ABDOMINAL AND GYNECIC SURGERY.*

BY HOWARD W. LONGYEAR, M. D., DETROIT, MICHIGAN.

PROFESSOR OF CLINICAL GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; CHIEF OF STAFF OF WOMAN'S HOSPITAL. AND GYNECOLOGIST TO HARPER HOSPITAL.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE history of abdominal and gynecic surgery shows a very slow rate of development until the advent of asepticism gave it an impetus that has caused more history to be written on these two branches of surgical art than was recorded during all preceding time.

Before the discoveries of LISTER, whose name will forever mark the end of the dark age, and the beginning of the present bright era of surgical history, special surgery in these branches was attempted by a comparatively small number of surgeons, and these were looked upon as the so-called authorities, whose opinions must not be doubted, and whose teaching it was criminal to neglect to follow. This dark age of surgery was marked by extreme conservatism, a conservatism born of ignorance and fear, and with the lack of knowledge of asepticism this conservatism was a wise provision, as it prevented wanton waste of life through reckless surgery.

As the truths of asepticism gradually unfolded and revealed the possibilities of surgical achievement, the field appeared almost limitless. Masters of the art rapidly increased in numbers, and with this increase in numbers, although they were more scientific and did better work than those of the old regime, they were looked upon with less reverence, and their opinions were assailed and only elieved when proven by facts, the demonstration or refutation of which the ew field of research made possible.

The peritoneal cavity, which, to a large extent, had been *terra incognita*, pproached with almost superstitious fear by the bold surgeon who had the merity to open it, became like an open book, its mysteries, scientific facts to learned not only by the teaching of the masters, but also by individual research. This fearlessness of the peritoneal cavity has led to extensive experimentation within its once sacred precincts, much of which is already yielding large returns in the lessening of human suffering, the saving of life and the glorification of the science and art of nineteenth century surgery.

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* The Annual Address of the Orator of the Section on Obstetrics and Gynecology of the ICHIGAN STATE MEDICAL SOCIETY, delivered at the Detroit meeting.

To the early pioneers in this work the human family owes much, and to those who are developing and perfecting the work begun by them, the debt of gratitude is also due, for the most of this advanced work is being done by surgeons of good judgment and with honest intent to benefit science. As a result of the labors of these operators their ideas are gradually crystallizing into methods which stand the crucial tests which a large proportion of the profession is now competent to make.

With all this highly meritorious and scientifically valuable work there is naturally a considerable amount of much less, or of no value at all, that has been and is constantly being done by surgeons of little experience and less sound judgment, and some even with apparently more of a desire to achieve notoriety than scientific results. This is a natural result, and it will take time and considerable industry to separate their chaff from the good grain that will constitute the fundamental principles of the future.

With all this work, good, bad and indifferent, engendered by this contempt of the peritoneal cavity, with its numerous operators, many of equal experience and ability, having original ideas and methods of their own, some holding extreme views and advocating the most radical methods, which in turn are condemned by others, and all advocating their own particular ideas and claiming and proving by reports of cases the best results, is it any wonder that the word "conservatism" has been lost sight of and become almost obsolete in connection with this branch of surgery under discussion? It has passed from view, however, but temporarily, has been covered up and hidden, as it were, by the *debris* resulting from the surgical revolution. As the atmosphere of the conflict clears, the rubbish is being rapidly removed and the old-fashioned word will soon be brought forth and become active and useful again. Hence I ask your attention to some of the applications of the term.

Let us consider for a moment the technical meaning of the word "conservatism." WEBSTER says: "Having power to preserve in a safe or entire state, or from loss, waste, or injury."

Considered in a surgical sense this definition might have a variety of applications according to the experience and skill, honesty, prejudices or bias of the individual using it. Surely the surgeon of ability and experience should be allowed more latitude in the use of the word than the tyro in surgery. An operative procedure which might be radical and reckless in the extreme for the latter to undertake could be considered as conservative when handled by the man of ability.

Some of the ambitious and enterprising surgeons of the present day ha
apparently been applying this definition more to the preservation of the orga
after removal, pathological and otherwise, than to the patients from whom th
were taken. Their ambition seems to be to "preserve in a safe or entire stat
(in bottles of alcohol) as many of the organs taken from the pelves of wome
as their time and the consent of their patients will permit. While it is tr
that they do succeed in preserving the organs "in a safe and entire state," in th

manner, and also frequently have the pleasure of exhibiting them, beautifully prepared, and free from the distortions and blemishes of disease, they seem to forget that possibly the definition may refer to the future condition of the patient, to her person considered in its entirety, to the whole mechanism with its wonderful ensemblement of organs working in unison.

In their desire to submit all ills and ails to the arbitrament of the knife, they have gone to the very outskirts of the domain of disease, and then, like ALEXANDER, feeling still an unsatisfied yearning for more worlds to conquer, have stepped across the border, and are now removing everything within reach, that, in their supernal wisdom, they can see no use for to the patient.

If a diseased ovary is to be removed, why leave the healthy Fallopian tube? It can be of no further use as an oviduct as its source of supply is to be cut off, and so will only burden the patient with a useless organ. It also may become diseased in the dim and distant future, so why leave so dangerous an appendage? It is plainly the duty of the operator to remove it, so out it comes with the ovary. On the other side, there is, perhaps, a diseased tube and a healthy ovary. The tube has to come out, and as the product of the ovary can never reach the uterus without its tube, it also becomes useless and comes out with the tube. For of what earthly use is it to a woman, say the wiseacres, to have an ovary that can only shed its product into the peritoneal cavity? Its usefulness as an organ of procreation is passed, and as they can conceive of no further use for it, its fate is sealed. Now the uterus only is left, or rather it used to be left at this juncture, but now the same search-light of philosophical reasoning is brought to bear on it, and out it comes with its appendages.

A healthy uterus, a normal ovary, and a normal tube, removed because of a diseased tube and ovary.

This is not an imaginary picture, as many of you know, but a true statement of fact that can be seen illustrated in scores of operating rooms in this country today.

The philosophy of these operators has, until quite recently, been confined to their understanding of the usefulness of these organs in the procreation of the species, and their field has been comparatively undisputed, but of late there is a tendency on the part of some influential members of the profession to call a halt, and ask that the wheels of the Juggernaut be stopped while the nervous system of the woman be given a chance to be heard from.

Are we sufficiently acquainted with the complex nervous system of woman to say that the removal of healthy organs, endowed with the most complete nerve mechanism of all the organs of the body, can have no detrimental influence on her future? Can it make no difference to a young woman's happiness and well-being whether the menopause is made to occur at the age of, say, twenty-five or thirty by the removal of her one healthy remaining ovary, or allowed go on to the natural time of the change by allowing the organ to remain and rform its normal function?

The modern French method of removing everything *per vaginam* for diseased pendages leaves no choice to the surgeon. He begins at the cervix, and work- g upward removes the uterus and its appendages, cutting his bridges behind n, as it were, and leaving no opportunity for a change of base in the operative ack in cases of mistakes of diagnosis. This point is very well illustrated in a letter from Paris by Doctor W. S. Caldwell, published in the *Medical Record* of April 16, 1898, the quotation beging as follows:

"To illustrate how even so good a diagnostician as Doctor Richelot is may be deceived and make an erroneous diagnosis, I cite the following case:

"Patient aged forty-two years, mother of seven children, looks fairly well nourished, complains of pain in back and loins and has been flooding for three months. Diagnosis: Uterine fibroid with retroversion. Vaginal hysterectomy done. When the cervix was opened it was found to contain a large blood clot. When the uterus was opened, out burst a fetus of about three and one-half months. This accident did not at all unnerve the doctor, who justified himself by giving examples in which eminent men had committed the same blunder."

I have also seen the same mistake occur, with the same result, with an operator of large experience, and I was not obliged to go as far as the French capital to witness it.

This mistake in diagnosis may happen to any of us, but any plan of operation should be such as to allow of its correction before such serious mischief could be accomplished.

A catarrhal condition of the uterine endometrium is considered by them sufficient cause for the removal of the organ, but whether it is diseased or not seems to make no difference with its removal. It comes out anyway. They say that the opening caused by its removal makes good drainage! There is truly room here for the application of a little wise conservatism.

There is already springing up a class of operators in this country, men of experience, skill and integrity, who are taking a conservative stand in this matter of diseased appendages and wholesale hysterectomy. Normal ovaries are not removed, and some of them advocate the leaving of small fragments of healthy ovarian tissue, when possible, for the purpose of preserving the natural functionation of the generative organs, with its consequent conservation of the balance of the nervous system. Healthy tubes are left *in situ* and catarrhal uteri are treated by other methods than removal. They also advocate vaginal drainage of large, septic, pelvic abscesses in all cases attended with general sepsis, exhaustion and depletion, and the subsequent removal of diseased parts if necessary.

These, as well as other important questions along the same line, have yet two sides to them, and it is well for us to look critically at both.

Some of these operators, in their extreme efforts to save everything possible, will doubtless become too conservative, but it is only by the swinging of the pendulum both ways, from the most radical to the most conservative, that the true conservative point can be observed and established.

The same tendency to reaction in the methods of treatment of fibroid tumors of the uterus is also becoming manifest. The dictum that "the best place for a fibroid is in a bottle" is being seriously questioned. The sm l tumors can be, and are now, successfully treated with electricity by many w previously advocated hysterectomy in all cases. The enucleation of th tumors, even in cases of multiple growths, without removal of the uterus also being urged, and if the method is found to be practical, as in the c with small, isolated growths, then hysterectomy for this cause will be ra demanded, more women will be left to go on to natural maturity, and exhibition of certain specimens, that many of us have seen in our societies, of healthy uteri and appendages, with pedunculated, or single, small fibroids attached, will cease, as such sacrifices on the altar of science (?) will then be deemed unjustifiable and without warrant.

The appendix vermiformis has also given up its secrets to the present era of abdominal surgery. This small example of the survival of the *un*fittest furnishes a rallying point around which many fierce, wordy battles have been fought, and the contest still goes bravely on. When this little diverticulum becomes inflamed, the signal for battle is hoisted, with the question of the *proper time* for operation the bone of contention.

Operators who do little else beyond surgery of the abdomen are nearly unanimous in the teaching that every case should be operated on just as soon as a diagnosis is made. This dictum has led to much disputation, and many fierce battles have resulted, and it grieves the profession, and I have no doubt the suffering patient also, that the dispute seems to be still an open question.

The general practitioner, he who usually sees these cases in their incipiency, will not believe that all cases need immediate operation, because he sees the majority of his cases recover without it. What he wants, and what he is constantly asking for, is some infallible indication for operation, some sure and safe rule that will direct him, so that he may know just *when* to send for the surgeon. This he will never obtain, as the surgeon of experience will tell him if he were to attempt to formulate such a rule it would not always work, and when it did, the surgeon would be usually called too late. Some attempts have been made to do this, usually by ambitious operators of limited experience, but their authors have usually abandoned their offspring as a result of a riper knowledge of the subject.

These two questions, namely, "Immediate operation in all cases," or "*When* to operate," are doubtless the two questions between which any conservative methods in the surgical treatment of this disease will be formulated. Time may do this, but at the present there is no indication of a settlement of opinion on these questions.

Experienced surgeons of sound judgment, even those who teach the radical method, are occasionally seen to delay operation in certain cases, usually cases that, because of age or other physical infirmity, are bad subjects for abdominal section, and the patients recover beautifully. When the general practitioner sees this seeming inconsistency on the part of one who is constantly urging operation in all cases, he finds it difficult to harmonize the treatment with the teaching. And yet this is doubtless a demonstration of the true conservatism of the future in the treatment of appendicitis. Individual experience and judgment will be the most conservative in a given case, while inexperience and lack of judgment will desire to be guided by hard and fast rules.

The details of the operation are rapidly becoming settled as far as points of nportance are concerned. The question of the removal of a diseased appendix, hich forms part of the unbroken wall of an abscess cavity, seems the most mportant one connected with the operation, and the majority of abdominal urgeons seem now to have fallen into line on the conservative side of it, and ecommend the opening of the abscess with free drainage, and the removal of he appendix, if necessary, at some future time, when the patient shall have recovered from the sepsis and exhaustion incident to the abscess. This is along the same line of treatment advocated in the vaginal drainage of large pelvic abscesses, as previously mentioned. The treatment in either affection is apparently a move toward rational conservatism, and not a step backward as is claimed by some who advocate the removal of everything diseased at once in all cases, and intimate that anything short of that is due to a lack of surgical boldness.

Human life must not be sacrificed to gratify the desire of the operator to make a neat and complete operation.

Drainage of an abscess is not so fascinating an operation as an abdominal section to the young surgeon who thirsts for fame and a "record," and so to the older operators, who have already recorded their successes in abdominal surgery, will doubtless fall the task of working out and settling these two questions.

The recent demonstration by a foreign surgeon of the practicability of the removal of the human stomach for carcinoma, with the survival of the patient, has opened another field for the abdominal surgeon, and if the operation shall happily become an accepted procedure, it will bring hope to the hearts of many of those doomed to suffer with gastric cancer, and will be of service to humanity in this respect at least, even if it does not prove to be a great success in saving of life.

This new field will doubtless be fought over as the one situated at the other extremity of the abdominal cavity has been, and suffering the same fate as the uterus, we may, ere long, see the stomach also removed for a no more serious cause than that of chronic catarrh. It will be claimed, of course, in such cases that "the symptoms were suspicious," and the organ was removed early so as to take the cancer in its incipiency. That is the way they used to explain the removal of catarrhal uteri, but now the catarrh is sufficient, and so it may be with the poor stomach! Conservatism will have to deal with this question, if perchance it does not condemn the operation altogether.

In the treatment of puerperal infection the operation of complete hysterectomy has been advocated by some, and a number of operations have been reported. The result has been a failure to demonstrate its usefulness, which is not surprising as the operation must of necessity be performed under the most adverse conditions, the patient profoundly septic, and the operator in practical ignorance as to the extent of the local infected area.

This radical method of treatment of the infected puerperal uterus has apparently suffered the fate of the patients operated on, and is dead to rise no more. Whether its demise is due to the bad results obtained, or to the advent of serum therapy, which promises so much in the treatment of puerperal infection, is a question.

Thus far, infection due to the streptococcus and the KLEBS–LOEFFLER bacil of diphtheria, have been successfully treated by the antitoxin serums. cases which have shown unsatisfactory or negative results have usually b those in which the infection was due to a mixture of germicidal elements, varieties not destroyed by the specific antitoxins used still continuing t activity.

Bacteriologic diagnosis of puerperal infection and the application of ser therapy, the use of nuclein, protonuclein and other remedies to build up and fortify the resisting powers of the blood, coupled with appropriate disinfection of the puerperal canal, is apparently the line of treatment on which will be based a scientific, successful, and conservative treatment of puerperal infection.

The foregoing thoughts form but an outline of what might be profitably considered in more detail, but the matter of time has necessitated the dealing with but the salient points of the subject.

The exercise of conservatism in surgery is, after all, but a matter of the election and application of such measures as shall work to the best welfare of the patient.

To accomplish this in every case would require nothing short of divine wisdom, and, as to err is human, we cannot expect to attain to this perfection; but we can at least strive *toward* such attainment.

With, first, honesty to our own conscience and to our patients, and then knowledge, with judgment and skill in its application, humanity need not fear the loss of the conservative spirit in our art.

MEMOIRS.

A SYMPOSIUM ON SEPTIC DISEASES OF THE ABDOMEN AND PELVIS.

THE ETIOLOGY.*

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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THERE is in so far as I know nothing new to be said on that portion of the subject assigned to me. I can only hope to direct your attention to a few of the things that are of practical importance.

The surgeons make a distinction between septic and suppurative diseases. There is, for example, a sudden perforation of the intestine, the peritoneal cavity is flooded with bacteria and their poisonous products, there is intense shock and a rapid, fatal peritonitis. An examination of the peritoneum, it may be, will show but few macroscopical changes; there may be even very little inflammation; the suddenness and intensity of the poisoning have, as it were, paralyzed the cells so that they do not react to the irritation. This is called septic peritonitis. Had the process been more gradual, the infection less intense, the endothelial cells would have proliferated and been cast off, serum and white corpuscles would have poured into the cavity and we would have had suppurative peritonitis. As the cause is the same in both conditions, and s the septic may at any time pass into the suppurative stage, it seems to me hat it will be advisable for our purpose to consider them as one.

For the production of sepsis in the abdominal and pelvic organs, as elsewhere in the body, two things are necessary: (1) A source of infection. Without bacteria there is no sepsis. (2) Lowered resistance of the tissues; ealthy, normal tissue will not suppurate. It is only in dead, wounded or weakened tissues that the suppurative bacteria can grow and produce pus. To be sure they can be introduced into a tissue in such numbers and accompanied by a sufficient quantity of their poison as to produce a local weakening of the cells so that suppuration results.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY at the Detroit meeting.

The source of infection. This may be a suppurating focus in any portion of the body. The bacteria circulating in the blood, if the conditions are favorable, may be stopped and begin to multiply in any organ. Even in health bacteria are often present in the blood. They enter the lymph stream through some slight wound or abrasion of the skin or mucous membrane, or through the stomata in the lungs and are eventually poured into the blood stream. Here they are soon killed or eliminated. In the bacterial diseases the number of germs in the blood stream may be considerable, in tuberculosis, typhoid, anthrax, glanders, scarlatina, septicemia and pyemia we find them eliminated by the kidneys, occasionally in the milk and saliva. It is possible that they may be eliminated by the skin and probably they are in part excreted into the intestine.

We may have a peritonitis, the source of infection being an erysipelas of the face, or a suppuration in the foot. We have an abscess of the liver, traceable to an amebic dysentery located in the colon. It is more than probable that whenever we have a collection of living, multiplying bacteria in any part of the body some of them will find their way into the circulation. But, as said before, the presence of the bacteria alone is not sufficient to cause suppuration; there must be enfeebled tissue. This enfeeblement may be brought about in many ways, poor nutrition, autointoxication, trauma, inflammation, any one of many causes may so lower the resisting power of the cells that they can no longer withstand the attack of the bacteria and their poison. It should be noted here that there are two germs which seem to be able to attack and penetrate unimpaired membrane. The gonococcus apparently passes through the uninjured, healthy mucous membrane of the urethra or conjunctiva. So the tubercle germ seems to be able to penetrate a normal, intact serous membrane, as in the peritoneum. There is in the latter case a noteworthy difference in susceptibility to the different species of bacteria. If we inject into the peritoneal cavity of a susceptible animal, such as a guinea-pig or rabbit, some sputum containing a very few tubercle germs, and thousands, even millions, of the common pus germs, it will usually happen that the pus germs are disposed of without apparent harm, whereas a tubercular peritonitis is at once set up. One experimenter concludes that if as many as eight virulent tubercle germs are injected into the abdominal cavity of guinea-pigs tuberculosis invariably follows. Others have shown that many millions of the pus germs, staphylococci and streptococci, might be introduced without apparent harm.

Of the causes that enfeeble the tissues and render them susceptible to suppuration, probably inflammation is the most important. This inflammatio may be brought about in several ways. Germs that are not true pus producer such as those that cause gonorrhea, erysipelas or tuberculosis often caus inflammation and prepare the soil for the pus producers. A sort of autointoxi cation may pave the way for pus. We have a constriction of the intestine; th germs always present in the canal multiply, their toxic products accumulat they poison, weaken and eventually pass through the intestinal wall, and w have a localized inflammation of the peritoneum. Again, in inflammation the lumen of the capillaries is often narrowed by the increased pressure in the surrounding tissue; this may cause the stoppage, and localization of bacteria floating in the blood.

In septic diseases of the abdomen and pelvis we have to note those that belong to the serous membrane and those that are peculiar to the parenchyma of the contained organs. They are comparable to pleurisy and pneumonia, the one an affection of the serous membrane, the pleura, the other an inflammation of the lung itself. So we have a pelvic cellulitis, and a pelvic peritonitis. Although originating in different organs, affecting different structures, these classes of septic conditions usually complicate each other; an abscess of the liver, or other organ, breaks and gives rise to a fatal peritonitis.

Suppuration in the parenchyma of the various organs of the abdomen and pelvis is essentially the same as that occurring in other parts of the body. Suppuration of the peritoneal cavities, however, has some peculiarities worthy of note. The peritoneal cavity is anatomically and physiologically a large lymph sack. The area of the peritoneum is almost as great as that of the skin, a fact which helps to explain the apparently enormous rate at which serous exudations may accumulate in its cavity, and also enables us to comprehend the rapid absorption which may take place here. Experiments on animals show that the healthy peritoneum can absorb in one hour an amount of fluid ranging from one-fiftieth to one-twelfth of the entire weight of the body. It is generally explained that fluids in the peritoneum pass directly into stomata, which are the open mouths of lymphatic vessels. Some recent observers hold that this is not true. According to their statements there are no stomata, no direct openings into the lymphatics. They explain that absorption takes place here just as it does from the skin, or a mucous membrane. The rapidity of absorption from the peritoneum accounts for the intense shock which follows sudden rupture of an abscess or perforation of the intestine. The toxins so liberated are very rapidly absorbed into the lymph stream, and so pass into the general circulation. This great absorptive power of the peritoneum explains in part its relative immunity to bacterial infection. But this explanation alone will not suffice. In ascites, with a great accumulation of fluid, suppuration is rare, although we must believe that this fluid often has bacteria added to it from the blood, and it certainly must have frequently been infected in operations for its evacuation in the days before antisepsis. The normal peritoneal fluid, and even many of the abnormal accumulations, are germicidal, as we would expect from their relation to blood serum. Experimental proof of this has been given again and again in the recent studies on agglutination by Pfeiffer, Grüber and others. Again, according to Metchnikoff, the endothelial cells can proliferate, become detached, and are thus converted into phagocytes.

As pointed out above, the healthy peritoneum can dispose of enormous umbers of pus-producing germs. This, too, without apparent damage to tself, even without any of the signs of inflammation. These are, however, sually, experimental and not clinical results. The case is quite different if long with the germs there is introduced food material for them. In such case they may grow and increase at such a rate that the peritoneum is unable o destroy them, and we have peritonitis. This nutritive material may be feces from perforation, inflammatory exudates, blood serum, lymph, bile, urine, sloughing tissue, the contents of tumors, the dead cells on the cut surface of wounds, et cetera. It may be produced by trauma, lacerations, hemorrhages, emboli, or other disturbances of the abdominal circulation. Any cause which lessens the absorptive power of the serous membrane, or destroys its cells, any operation which leaves in the cavity a surface uncovered by peritoneum, prepares the way for the bacteria.

Here, again, we may note a pronounced difference in susceptibility to different classes of germs. Wounds prepare the way for pus by lowering the vitality of the tissues, and providing nutritive material for the bacteria. On the other hand it is well known that extensive injury, wounding and lacerating the tissues, even in the tubercular, is rarely, if ever, followed by a localized tuberculosis. When tuberculosis follows trauma the latter is slight or even insignificant. We open the abdominal cavity, expose the peritoneum to the atmosphere, to changes in temperature, to evaporation, to possible infection. As we close it we feel sure that we have weakened its resisting power, and we fear suppuration. And yet this same operation, that so favors the pus germs, will oftentimes, if it is a case of tubercular peritonitis, initiate changes which result in the destruction of the tubercle germs, and the disappearance of the disease. Pelvic suppuration, for the most part a disease of the female, is usually due to infection through the Fallopian tubes, or to the bacteria penetrating the walls of the uterus. In the latter case it is not to be understood that there is any perforation or rupture of the uterine wall. Given a swollen, sodden, suppurating uterus, its tissues saturated with and weakened—paralyzed by the toxic products of the bacteria growing within, and the pus germs can often grow right through the walls; again, this is not perforation, as that word is commonly used. The case is similar to the growth of bacteria through porcelain filters. Take the well known Pasteur or Chamberland filter. If properly made bacteria cannot be forced through it. If, however, we use it continuously for filtering a fluid containing germs we find after some time that the germs appear in the filtrate. The spaces, so-called pores, in such a filter are much as we would have in a closely-pressed mass of cotton wool, except that they are much smaller. The germ appearing on the outside of the filter is the last of a chain of bacteria that has been extended by multiplication until it stretches through the wall of the filter.

There are many examples where infection is traced to the open Fallopian tubes. To cite an instance. Tuberculosis of the genital organs is much more common in the male than the female, yet peritoneal tuberculosis is very rare in the male while not uncommon in the female, apparently pointing to infection through the Fallopian tubes.

I have said nothing of the most common of septic affections of the abdomen —appendicitis—feeling sure that the surgeons will give that subject sufficier airing.

There are a number of germs, species or varieties, that may cause suppura tion. If within a tissue we will frequently find a pure culture, one kind of germ. In peritonitis there is usually more than one species present. The staphylococci are generally the cause of limited, circumscribed abscesses. The streptococci of diffused suppuration. The first grow in masses or clusters, th latter in chains or threads. The staphylococci are rarely found in peritonitis, the streptococci being preeminently the pus producers of the lymphatic system. In addition to these, the common pus germs, we may have suppuration due to the pneumococcus, to the colon group, and less frequently to other germs. Here a mistake is often made. A culture is made and the germ found growing in the culture tube is decided to be the cause of the suppuration. A former student of mine wrote me recently for an explanation of the following:

In a case of septicemia he made a culture from the blood, and then examined this same drop of blood under the microscope. In the direct examination of the blood he noticed the bacteria in chains, streptococci, whereas his cultures seemed to be altogether staphylococci.

The facts undoubtedly were that he had a case of streptococcus infection, but in obtaining his drop of blood a few of the staphylococci, which are almost always on and in the skin, were added to the blood drop. In the culture tube the latter germs grow luxuriantly, the streptococci but feebly. The results were as stated.

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THE MEDICAL TREATMENT.*

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AND
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There is no one affection that has caused greater anxiety and appealed to the resources and prompt action of the general practitioner, in the whole history of medicine, than septic infection of the great peritoneal cavity; the infection comes from so many sources, and its manner of ingress is so varied that one must be on the alert, with his pathological knowledge and physical diagnosis ever bright and ready for use and application. The physician may be far removed from any of his professional confreres who might come in and aid him. He must depend on himself.

Experience tells us that the infection may come from the pleuritic cavity, from an hepatic abscess, or from the rupture of a hydatid cyst, abscess of pancreas or spleen, or perforating ulcer of the stomach, bursting of the bile cyst, or rupture of the ductus communis choledochus, from impacted gall-stones, and lastly from a perityphlitic appendiceal or tubal infection.

In all the cases of septic infection, the materies morbi is, we are taught by the bacteriologist, a germ peculiar to the locality from which it emanates. Osler tells us that the streptococcus pyogenes occurs oftener in the puerperal poisonings, while the bacterium coli cummune combined with others is more often found in the peritonitis arising from intestinal perforation. These two last mentioned causes being the most frequent, and as the prodromata in each are much alike, we will consider only them in this brief paper.

The symptoms in peritoneal septic cases are a rigor or chilly sensations, ollowed quickly by increase of temperature and abdominal pain, the intensity of which being most marked in the epigastrium or in the lower abdomen, or in he iliac region, in many cases extending down the spermatic cord to the esticles or round ligament and radiating to the bladder, and most frequently of all perhaps pain referred to the umbilical region. Frequent and painful micturition often is another distressing factor. The recti muscles become fixed and rigid. The respiration becomes shallow and hurried and costal with an occasional hiccough and intense thirst; soon the water drank and other contents of the stomach is regurgitated with the hiccough, or with a spasmodic action of the stomach. After the stomach has been emptied, spasmodic vomiting still continues, and the matter ejected is either mucus alone or stained with what appears to be bile. Soon the abdominal pain becomes more intense, the abdomen becomes more distended, and even the weight of the bed clothing becomes painful. The thighs are drawn up to relieve the abdominal tension. The bowels may be at first loose or constipated. Then peristalsis seems to be absent in the colon, while constant borborygmus is going on in the small intestine. I believe that the principal reason for the so-called constipation is due to the loss of power in the expulsive efforts to pass gases or the contents of the intestines and the rectal pouch, from extreme tenderness in the abdomen and fixed condition of the diaphragm and abdominal muscles. The temperature, which may have registered 103° or 105°, begins to drop; the pulse, that at first was full and quick, now becomes small and rapid; the face becomes pinched and the eyes sunken; the ears and face have a dusky or cyanotic color; the skin is dry and harsh; the vomiting still persists, and the abdomen has become greatly distended, so much so that percussion over the hepatic or splenic regions gives a high tympanitic note instead of the characteristic dullness in health. The right flank and the right iliac region may show marked dullness, if there is appendicitis, and usually dullness is present in both flanks if the septic condition is due to uterine infection.

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*Read before the Michigan State Medical Society at the Detroit meeting.

The course of the disease is often rapid, forty-eight to seventy-two hours from the first invasion ending in death. Yet the disease may continue on for a week or ten days. Death usually occurs in collapse. There are other cases in which the circulation is overwhelmed with the general poisoning and death occurs from cardiac paralysis.

In diagnosing the disease, the pain, the fever, the vomiting and distension of the abdomen, and final collapse, paints the picture so vividly that the conclusion is easily arrived at. An examination of the blood furnishes accurate methods of differential diagnosis. A careful history of the case usually gives the clue to the starting point of the trouble. Osler says "that in the young adults a considerable proportion of all cases depends upon perforating appendicitis in both sexes, the preponderance in favor of the males." In the female much of this trouble comes from tubal abscess or other infection. Many of these infections, in place of becoming general, may become localized in one or the other iliac fossa. "Where we have an appendiceal infection with the appendix free, circumscribe adhesions take place and wall off the infection." The same may be the case in tubal infection. When this occurs many of the cases recover. Osler says "that postmortem examination shows that healing of rupture follows in a large number of cases, even large abscesses may forn and still be intraperitoneal, yet completely walled off from the general sac."

The treatment should be perfect rest and the patient allowed to assume the position that causes the least suffering; full doses of opium or one-fourth grai doses of morphine hypodermically, given often enough to control the sever pain, and one-fifth grain doses of mild chloride of mercury given every hour until one or two grains are given. Then follow up with a saturated solution of the sulphate of magnesia in tablespoonful doses every half hour until the bowels move freely. Should the saline be slow in acting, free lavage of the colon should be employed. A rectal tube should be passed high up the descending colon, and a saline injection given, containing two ounces of magnesia sulphate to the quart of water, cleansing and washing out the whole colon; also inducing a free flew of serum and relieving or stopping the edema of the intestinal tract. Hot fomentations of turpentine seem to have a decided effect in the prevention of tympanites and give relief to the patient because of the heat and revulsive action. In some cases the application of cold seems to give the greatest relief; the ice-bag with finely broken ice and as little water as possible to avoid too much weight on the abdomen. But very little fluid should be taken into the stomach until the intestinal tract shall be relieved of its contents. Then if the thirst be great, lumps of ice may be held in the mouth until dissolved. The nourishment should be aseptic and liquid of the blandest. The beef tea, with egg albumen well mixed in rice water, should suffice until the acute symptoms are relieved. Should the stomach be too irritable to retain foods, then rectal enemata should be given to sustain the patient.

While I have enumerated some of the standard measures used in the treatment of the disease, I think we still have other valuable aid in the nucleins, the streptococcus serum, and last, though not least, an allotropic form of silver, brought to public notice by DOCTOR CREDIE, of Dresden, at the International Congress held at Moscow last year. This preparation is readily absorbed when applied to the skin and is soon found in the blood, the intestinal contents and the urine. It has a marked effect in dispersing furunculæ, aborting carbuncles or other phlegmata by antagonizing and destroying the septic invader of the blood. This unguent can be freely rubbed in over the abdomen or any portion of the body, using about forty-five grains and rubbing it in at least thirty minutes. I think I have witnessed the good effects from the unguentum of CREDIE in several cases of chronic and recurrent peritoneal troubles.

The nucleins may be used per orem and hypodermically. When a microscopic examination shows the presence of streptococcus infection, the antistreptococcus serum should be used.

In peritonitis arising from appendicitis, just so soon as the diagnosis is fully made, the case becomes a surgical one and surgical interference should not be delayed. When peritonitis arises from tubal infection a longer delay is justifiable with the hope of relieving the patient by remedial agents. H. B. O.

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THE medical treatment of septic infection of any part of the great lymph sac, the peritoneum, is much the same. Whether the poison is in the pelvic cavity or in the region of the appendix vermiformis or of the liver or kidney, the cardinal principles of treatment will be similar. The first and most important of all is rest, absolute rest. The patient should be put in bed and kept perfectly quiet until fully convalescent. If the temperature is high and pain severe the cold coil will give relief and diminish the tendency to extension of the inflammatory process. In some cases, however, heat is better borne and should be continuous at as high a degree as the patient can bear, never allowing the temperature of the applications to fall. With either the hot or cold constantly kept up we get a diminution of blood supply and lessened exudate.

The exudate, unless excessive, is beneficial and is nature's safeguard in confining the poison within a limited prison wall. We know that the peritoneum is capable of digesting many things while in a healthy condition and of locking up forever bodies that are not digestible. By osmosis through the bowel it can be drained and much that would prove deleterious can in this way be removed. This teaches us, in septic infection of the peritoneal sac, to keep the drains open and carry off the sewage.

Free catharsis by repeated small doses of calomel triturates or small doses of magnesium sulphate repeated every hour or two until the bowels move freely and this repeated as often as necessary, lessens the danger of general septic infection. Opiates, though occasionally required, should be used very sparingly. Hot vaginal and rectal douches are very useful to relieve pain and supplement the external applications when the inflammation is in the pelvis. Liquid nourishment in concentrated form should be used and no solids given until convalescence is established. H. McC.

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THE SURGICAL TREATMENT.*

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ADEQUATELY to discuss the surgical treatment of peritonitis within the short space of twenty minutes is clearly an impossibility. I shall therefore proceed to state, in the form of propositions, certain facts as they appear to me, attempting no explanation or defense of the position assumed. Only in this way has it seemed possible for me to meet the views of your committee, and aid in starting a discussion of sufficient scope. If those who discuss my propositions will recognize the limitations thus set by myself, they must see that much has been necessarily left unsaid, much implied, and hence they will do justice both to the subject and the present speaker.

Although some of my propositions may in a measure embody the statements made by some of the speakers preceding me, they are necessarily reaffirmations from the clinico-surgical standpoint, and serve as premises to my conclusions as to surgical treatment.

Proposition I.—There is a primary peritonitis, usually due to infection by one variety of the pyogenic cocci, although mixed infection is not uncommon. This arises independently of any "infection antrium" in a diseased abdominal viscus or penetrating wound of the parietes. This "terminal infection" occur late in chronic renal, hepatic and cardiac affections. From the lowered vitality of the tissues induced by the imperfect nutrition present in these diseases, germs entering the circulation at distant "infection atria" are not destroyed o eliminated as in health. The normal inhibitory power over germ growth possessed by the blood serum has been shown to be notably diminished in bot advanced renal and cardiac affections. Moreover the physical conditions of the circulation favor the accumulation of germs in such numbers, that while innocuous to a healthy serous membrane they may, and often do, overcome the resistance of one whose nutrition is imperfect. This form is rarely amenable to operation.

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* Read before the MICHIGAN STATE MEDICAL SOCIETY at the Detroit meeting.

Proposition II.—Postoperative peritonitis, or that following infective processes in a parietal wound, is usually a mixed infection, the predominating organisms again being the pyogenic cocci, rarely bacilli. The former fact serves to emphasize the paramount importance of thorough disinfection of the field of operation and the hands of all those who may come in contact with the wound, the instruments or dressings. Moreover, this proves that in most instances postoperative peritonitis is an entirely preventable disease, as are also many peritoneal inflammations due to penetrating traumatisms, although in posttraumatic peritonitis infection has usually occurred before the surgeon's arrival from the abdominal parietes, fragments of clothing carried into the abdominal cavity, the vulnerating object, or the injudicious examination of the wound by the friends or the family physician.

Proposition III.—The occasional presence of bacilli in conjunction with other microorganisms, that is, a mixed infection, shows that the surgeon is not always blameworthy, because bacilli may either intensify the action of other germs present in too small numbers to be harmful, or actually be the chief factors in a peritonitis following operation. The bacilli often come from the intestine when firm adhesions have been separated. The intestines have in no sense been penetrated, but their peritoneal coat has been more or less completely stripped off, and ecchymoses or minute lesions of their mucous coat has resulted from necessary handling, rendering them *pervious to germs*, hence the peritoneal infection. Again, such injured points present a *locus minoris resistentiæ*, which it is well proven, experimentally, will render efficient an infection by a given number of germs introduced into the peritoneal cavity, which in the same, or larger numbers, would have proved harmless with an intact peritoneum. Hence all unnecessary intraabdominal traumatism, however trivial, should be avoided, all surfaces denuded of peritoneum when possible being covered in by suturing. The fluid employed for irrigating should be normal salt solution, because this does not damage the peritoneal endothelium as plain water does; any damage to these cells lowers the resistance of the peritoneum to germs, favors their implantation, and hence the establishment of an infective peritonitis.

Proposition IV.—A distinct class exists where the infection comes solely from the gastro-intestinal or genito-urinary tracts. While this form of peritonitis usually follows operations involving actual section of one of the hollow viscera, the statements contained in the preceding proposition explain the occurrence of a certain number. Many years ago it was a well recognized clinical fact, that cases requiring the separation of extensive adhesions were peculiarly liable to be followed by dangerous peritonitis. Although many of these old time accidents are avoidable by asepsis, it must never be forgotten that no perfection of aseptic technique will *invariably* render innocuous faults or misfortunes of *operative technique*. Therefore, when extensive surfaces of the hollow viscera are denuded of peritoneum, which surfaces are not reparable by suture, some form of drainage should be instituted, preferably Clark's; a resort to such expedients will often prove successful in averting a fatal termination.

Proposition V.—Because intestinal paresis, if absolute and nonrelievable, means certain death, despite the most perfect asepsis and operative technique, its prevention and relief demand our most earnest consideration.

Proposition VI.—Intestinal paresis can best be prevented by early operation, because it results from an extending infective process which can often thus be successfully combated in its earlier stages. When no operation is done, or the condition supervenes after operation, calomel by the mouth, followed by salines, aided by purgative rectal enemata, strychnia hypodermically, the abdominal ice-pack, washing out of the stomach when fecal vomiting is marked, and rectal feeding embrace all that can be done and are occasionally successful. Cold somewhat inhibits germ growth, favors a return to the normal of the intraabdominal circulation, hence lessening the accumulation of germs while increasing the resistance of the tissues from improved nutrition, and stimulates to contraction the muscular coat of the intestines. Strychnia is a most effective agent in securing a reestablishment of the motor functions of the bowel, while purgatives aid both cold and strychnia by emptying the overdistended intestines, which often exert such pressure upon the thoracic viscera as to fatally embarass their action; toxic substances, which directly or indirectly are producing the paresis, are eliminated. Purgative enemata composed of Epsom salts, glycerine and turpentine may be employed as succedanea or substitutes for purgatives by the mouth. If during the operation intestinal paresis is found or suspected, by means of a syringe and hypodermic needle one ounce of Epsom salts in saturated solution should be injected into the upper part of the small intestine, and the opening closed by suture.

Proposition VII.—Increased frequency of pulse, especially when out of proportion to either temperature or respiration, more surely indicates the need for operation than any other symptom. High temperature, great pain and abdominal distension, with or without vomiting, may be and often are sufficient indications, but may all be absent in some cases most urgently demanding surgical intervention. Distension, pain, and vomiting are often at least temporarily relievable by purgation, aided perhaps by some of the other measures mentioned in Proposition VI; these statements are especially true for appendiceal peritonitis.

Proposition VIII.—When both the local and general symptoms of a peritonitis are undoubtedly stationary immediate operation is not *demanded*, although this may be desirable upon other grounds than the immediate risk to life.

Proposition IX.—Any extension of a peritonitis, shown either by increase of the local or general symptoms, still more by both, usually demands prompt intervention as a life-saving measure.

Proposition X.—Generalized, that is, septic peritonitis cannot be efficiently treated by mere irrigation and the introduction of drainage tubes. The minimum which is effective is, after irrigation with many gallons of salt solution, the introduction of numerous gauze drains reaching practically all parts of the abdominal cavity; supplementary lumbar and hypogastric drainage openings are also often advisable. If, however, the condition of the patient sanctions considerable manipulation and the consumption of additional time, when any adhesions are readily separable, free enlargement of the parietal incision should be done, and portion by portion all the movable hollow viscera should be brought externally, surrounded by hot towels, liberally douched with hot saline solution and carefully wiped with bits of gauze to remove, as far as safe, all infected exudate. As each segment is cleansed it should be returned into the abdominal cavity. Evisceration *en masse* must be avoided because, although it requires prolonged manipulation of healthy intestines to produce shock, this is rapidly produced when they are inflamed. Injection of a saturated solution of magnesium sulphate, as described in Proposition VI, should be given, and numerous strips of gauze should be introduced so as to drain all parts of the abdomen with or without counteropenings. The use of ice, strychnia, purgatives, et cetera, as described in Proposition VI, are also indicated.

Proposition XI.—Too much stress cannot be laid upon the imperative necessity of previous walling-off of the general peritoneal cavity by careful packing with gauze when opening any intraabdominal pus collection which alone renders the procedure either justifiable or safe; the pus, when possible, should be removed by pieces of gauze or sponges rather than by irrigation which might diffuse the infective material over a wider area. Irrigation is, however, sometimes the sole or most efficacious means to remove the pus.

Proposition XII.—When doubt exists as to the necessity for drainage, the introduction into the peritoneal cavity of one or two pints of warm saline solution, close suturing of the wound and elevation of the foot of the bed about eighteen inches will prove sufficient. This position, as CLARK, the originator of the method has shown, tends to relieve the abdominal distension, favors the normal peritoneal current toward the diaphragm, the peritoneal covering of which he has shown plays the most important role in the removal of fluids and germs from the abdominal cavity. Assumed immediately after operation it materially lessens accumulation of blood in the abdominal viscera, one of the most potent factors in maintaining shock, and lessens the tendency to oozing.

Proposition XIII.—Tubercular peritonitis is best treated by incision, separation of soft adhesions, free irrigation and closure of the wound without drainage.

Proposition XIV.—Codeine rather than morphine must be employed to secure sleep, et cetera. Morphia is never indicated as a curative agent and should rarely be needed to secure sleep. C. B. N.

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THE subject—"Septic Diseases of the Pelvis"—includes the whole of gynecology except malformations, certain neoplasms, malpositions and trauma. I therefore shall endeavor only to outline the general principles which govern me in the treatment of these conditions.

The character of the invading microorganism, the location of resulting esions, the reflex disturbances, the resistance of the tissues and the age, circumstances and environment of the patient are the determining factors in the method to be employed.

The tubes and ovaries become infected not only by continuity of surface but hrough the lymphatics and blood-vessels. Inflammation is conservative, it is he process by which nature prevents the further ingress of germs, it is the ymptom of their presence.

In vaginitis early and thorough disinfection is essential to protect the uterus and its appendages. In simple vaginitis, by which I mean mild cases of inflammation, the etiology of which is uncertain, the treatment should be rest, mental and physical, as perfect as circumstances will permit, vaginal douches of three to six quarts of a saturated solution of boric acid, temperature about 110°, every eight hours, given from a fountain syringe, the patient being in a recumbent position. The attendant or patient should be instructed as to the importance of keeping the douche nozzel surgically clean. An occasional douche of one to ten thousand bichloride of mercury should also be given. When from the sudden onset of the inflammation, its severity, and the quick involvement of the urethra and vulvo-vaginal ducts, we have reason to suspect a gonorrheal origin, the bichloride solution should be used, instead of the boric acid. The attending physician should swab the vaginal walls thoroughly with about one to one thousand five hundred solution of bichloride of mercury, using a speculum which dilates the vagina thus permitting the bottom of every sulcus to be reached. The parts should then be douched with warm water and a tampon saturated with boroglyceride inserted against the os uteri. If the discharge be profuse and the sphincter vaginæ tight, a gauze drain should also be left in place. If this course were followed the records of intraabdominal surgery would be shorter. When the inflammation is chronic, cure is hastened by the application of a two per cent. solution of silver nitrate, every second day, any cause for discharge from above being first removed. The principal of drainage must be observed in these cases also. If the urethra be involved it should be irrigated with a solution of bichloride of mercury one to twenty thousand, after injecting a three per cent. solution of cocaine.

When diphtheritic membrane is present, constitutional measures should also be used, antitoxin being employed early. When patches of the vaginal membrane are destroyed or denuded of epithelium, care must be taken to prevent adhesions resulting in atresia. I have dwelt thus at length upon vaginitis because this passage is the avenue to the uterus and its appendages and through these to the abdominal cavity.

In endocervicitis, the application of equal parts of Churchill's tincture of iodine and carbolic acid is effectual. In many cases the sphincter at the internal os guards effectually the corporeal endometrium from invasion. Infection having once entered the uterine cavity, direct invasion of the muscle through the glands which dip down into it is of frequent occurrence. The resulting metritis as well as subsequent infection of tubes and ovaries depends upon the character of the germ and the resistance of the tissues. Menstruation and pregnancy favor the extension of infection because of the thickening of the mucosa, the elongation of the glands, the increase in interglandular substance by multiplication of embryonic cells, the infiltration of fluid and the natural enlargement of the blood and lymph vessels. There is no normal barrier t infection of the corpus uteri. An inflammatory one is built when agents o infection enter the endometrium. The effectiveness of this fortification depend upon the vitality of the individual and the virulence of the invading germ This natural fortification should not be broken unless the invading microorgan isms are simultaneously destroyed. The result of the labors of the anatomist, microscopist and pathologist which I have endeavored tersely to portray tell us emphatically that after abortion and labor, where symptoms of sepsis are present, care should be taken in cleaning the uterus, but a sharp curette should not be used. Clinical experience emphasizes the truth of this assertion. In these cases the principle of drainage should be respected by thorough dilatation of the cervical canal, the cavity cleared of debris by the finger if possible, if not by a dull curette and placenta forceps if needed, and cleansed by a flowing antiseptic solution. I prefer one to four thousand bichloride of mercury for this purpose. I think the application of equal parts of iodine and carbolic acid not only disinfects deeply but temporarily strengthens the barrier.

Before the above course is begun, a culture of the discharge should be started, that the indicated serum treatment may be resorted to in case of need.

The curettement is often followed by chill and higher temperature, due perhaps in many cases to increase in the general metabolism which commonly accompanies dilatation of the cervical canal.

Notwithstanding the above outlined treatment, symptoms of sepsis may become more marked, indicating involvement of the uterine sinuses. If vaginal hysterectomy is to be resorted to it must be done before metastatic abscesses have formed.

We will now consider the septic invasion of the endometrium of the non-pregnant uterus. In such cases the extension of the poison to other tissues is much less rapid. The whole mucous membrane down to the muscularis should be cleared away by a sharp curette. The principle of drainage must be observed and embarrassments of circulation by cicatrix should be removed that the local nutrition may improve, thus increasing the resistance of the tissue to that point of perfection which will enable it to withstand subsequent attacks of microorganisms. Permit me to say here that microbes never primarily successfully attack healthy tissues in any part of the body. They are always found in dead tissue unless it is soaked in antiseptics, and they generally arrive as soon as the nutrition of a tissue is impaired.

If the muscle structure has become invaded as shown by edema and tenderness, and it may be various reflex disturbances, hysterectomy must occasionally be resorted to. I wish here to again emphasize this observation—that certain pathological lesions of the pelvic organs being given, the reflex disturbances present in inverse ratio to the degree of local soreness and pain. This fact should compel great care in examination.

In periuterine inflammations the location of the foci of infection and the avenue of invasion are factors in determining the method of treatment. In some cases the invasion is by continuity of surface to the Fallopian tubes, the resulting infiltration preventing leakage into the peritoneal cavity or drainage into the uterine cavity, the inflammation extending through the walls of the tubes to their peritoneal covering, causing adhesions high in the pelvis. In these cases I prefer to remove the tube or tubes by abdominal section where severe metritis does not exist, particularly where it is thought possible to save one of the appendages. In some of these cases, by patching, one tube and ovary may be restored, which can in but few cases and with difficulty be done by the vaginal route. In such cases (where it can be avoided) it is better not to ligate *en masse.* I mean where the pus tube can be distinctly outlined, because this disturbes the nutrition of the tissues included in the ligature, favoring sepsis, as there are generally points of infection in this tissue. The size of the stump left is also objectionable, because of the difficulty of coapting the peritoneum over it to prevent subsequent adhesions.

When the collection of pus is below a wall which separates the pelvic from the abdominal cavity, free vaginal incision and drainage is all that is required, provided the damage to the uterus and its appendages can be remedied, and in many cases where a radical operation is indicated it is advisable to precede it by vaginal incision to relieve septic symptoms and increase the patient's vitality. I am supported in every statement by numerous experiences with which I do not wish to burden this essay, yet I will report one typical case I saw recently.

The patient's history showed that she had suffered from occasional attacks of pain in the left ovarian region. A month before I saw her a polyp which partially occluded the cervical canal had been curretted away. A few days later chills and fever and delerium presented. A week ago last Monday I saw her in Albion with Doctor Parmeter, who had made the diagnosis of pelvic abscess. Her temperature then was 103°, pulse 118 and tongue dry. She was only semiconscious. The body of the uterus was subinvoluted and pushed to the right, the cervix pointing to the left and fixed in inflammatory exudate. The vault of the vagina was tense and hard, the abdominal walls thick and tympanites marked. I therefore could not determine the presence or absence of fluctuation with certainty. We put her upon the table at once, gave her chloroform, made an incision posterior and close to the uterus, from one uterine artery to the other, permitting the entrance of four fingers. I found to the left and as high as I could reach an abscess containing more than a pint of pus.

When I am sure the organs cannot be reclaimed, if the patent's vitality warrants, I prefer to do a vaginal hysteroophorectomy to save the patient further delay, anxiety and expense.

When it is found necessary to ligate infected tissue absorbable ligature should be used. If silk becomes infected, it may be discharged through the rectum, bladder or abdominal wall.

There are many objections to the use of clamps when vaginal hysterectomy is performed for the relief of these conditions. Besides causing pain they destroy the nutrition of the ends of the broad ligaments which, when pus is not present or is low down in the pelvis, should be approximated to make a firm pelvic floor to prevent hernia. The pains in the abdomen subsequent to recovery ery from vaginal hysterectomy I believe are due to adhesions, especially of the omentum. The intestine also may become fixed in this opening and deaths from this cause should occasionally be reported.

In cases of abscess of the broad ligament or ovary, due to the bacillus tuberculosis, the uterus may be healthy, the infection coming from above. The same principles, however, govern their treatment.

In certain cases where neoplasm is present and low in the pelvis, or whe subinvolution is marked, adhesions being extensive, the combined method preferable, by which I mean dissection is first made around the cervix uteri a carried up as far as can be done with ease and rapidity, and the operation co pleted through an abdominal incision.

My experience leads me to assert that there is much less shock in work do through the vagina than by abdominal section. To save the patient's life one consideration, but to insure her comfort and happiness necessitates the proper operation done by the best method, which implies on the part of the operator diagnostic skill, mature judgment, dexterity, and familiarity with all methods born of true surgical principles. Methods are constantly changing. Principles only are eternal. Life is too dear to trust to method. Methods have fixed boundaries. Conservatism to some means keeping within these lines. Upon the altar of such are sacrificed many lives. Conservatism is acting in each case fearlessly and according to conditions, keeping in mind that the object of life is to function, and the reward of functioning of an organ, as of an individual, tends to harmony. W. F. M.

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SOME RESULTS OF THE ADMINISTRATION OF THYROID EXTRACT ON THE RED AND WHITE CORPUSCLES AND HEMOGLOBIN IN CASES OF ANEMIA ASSOCIATED WITH MELANCHOLIA.*

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The field of thyroid therapy, in the light of our present knowledge, is quite limited: experimental data have accumulated during the past year indicating various results. The most favorable, as well as the most reliable reports, were given by Ewald, of Berlin, in epileptic psychoses, acromegaly, rachitis and Basedow's disease, to the International Congress of Medicine at Weisbaden; also by Professor Bruns, of Tubingen, on goitre of the follicular variety, as being affected in a certain and prompt manner; cretinism is reported on by Schmidt; tetany and acromegaly by Schultz, of Bonn. Since beginning a series of experiments in cases of anemia, accompanied, or preceded, by melancholia, I have also observed some recent results, some of which were very good, obtained by Doctor Babcock, of the Saint Lawrence State Hospital, New York, in a variety of selected cases of mania and melancholia.

At the Upper Peninsula Hospital for the Insane nine cases were under treatment in the first series, seven females and two males, all suffering from some form of mental depression. Blood examinations were made before treatment, weekly during, and afterward, consisting of the enumeration of the red and white corpuscles and the estimation of the percentage of hemoglobin in each case. The counts were made with the Thoma-Leitz instruments, also by centrifugalization; the percentage of hemoglobin was estimated by Fleischl's hemometer. In normal blood in adult life the average number of red cells per cubic millimeter is estimated at about five million for men and four million five hundred thousand for women. The normal number of white cells per cubic millimeter is seven thousand five hundred. In hemoglobin examinations one hundred per cent. is considered normal, when using Fleischl's instrument.

Case I.—A. K., female, aged thirty-seven years, had been under treatment about three months, with very little, if any, noticeable improvement. Strong symptoms of passing into primary dementia were present. A selected diet, tonics, exercise and different forms of electricity were all utilized in her case, without any apparent improvement. She was pale and anemic, with a phlegmatic temperament, and was hallucinated. Liver and intestinal secretions inactive, complicated by constipation and mental inertia.

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*Presented to the Michigan State Medical Society at the Detroit meeting.

Thyroid treatment was begun, giving one five-grain tablet three times a day; the dose was gradually increased until fifty grains were being taken daily. This treatment was continued for one month. The temperature and pulse were taken twice a day. During the first ten days of treatment the temperature fluctuated between 98° and 99⅗°. When the maximum treatment was given, the temperature rose to 101°, remaining there but one day, when it declined to normal, remaining there during the last week of treatment. The pulse at the beginning of treatment numbered 62; on the second day 50; on the tenth 100; and during the remainder of the month ranged between 98 and 72, the latter when treatment was discontinued. The pulse increased in rapidity and volume as the temperature rose. When treatment was stopped there did not appear to be either physical or mental improvement, and for this reason it was no longer continued; her weight now commenced to increase rapidly and in a month gained seventeen and one-half pounds.

Blood examination: Red cells were normal, or little above, at beginning and remained so during treatment until about one day before treatment was discontinued, when they diminished about one million; they were about one-sixteenth normal size. Hemoglobin was below normal at beginning and increased about ten per cent. during treatment; seventy per cent. at commencement, eighty-one per cent. in the third week and seventy-seven per cent. at close. White cells were below normal at beginning, increased 3,460 the first week, dropped during the fourth week, and at the close there was an average increase of 2,760. In this case the red corpuscles diminished in both size and number, while the white, as also the hemoglobin, increased.

	RED CORPUSCLES.		LEUCOCYTES.	HEMOGLOBIN.
	Thoma-Leitz.	Centrifuge.	Thoma-Leitz.	
February 22:	4,544,000;		5,400;	70%
March 1:	4,736,000;		8,860;	72%
March 8:	4,560,000;	3,696,000;	8,660;	75%
March 16:	4,776,000;	4,032,000;	5,040;	81%
March 22:	3,704,000;	4,368,000;	8,160;	77%

Case II.—M. E., female, aged twenty-three years, was profoundly depressed, with an anemic appearance. Patient had a small amount of adipose tissue. She had been under treatment for nearly five months, without any beneficial results. No physical disease present.

When the thyroid treatment was commenced the temperature was subnormal, 97°, pulse 80, with cold extremities. Mental activity very sluggish. The second day after this treatment had begun, temperature increased one degree; on the tenth day it was 99°, and remained there during treatment. One five grain tablet was given per diem, and the dose gradually increased until thirty-five grains were being taken daily. The temperature reached its highest point when twenty-five grains were being taken. The pulse in this case did not vary with the change in temperature: during the last week of treatment it ranged from 100 to 116, there being a difference of from twenty to thirty-six at the commencement of treatment, while the temperature remained normal or below

This case—who was both stuporous and stubborn—was affected rapidly, even by small doses. The cold extremities and surface generally was changed, the blood filling the superficial capillaries, and continued so, with some improvement in mental activity, which lasted during treatment; no permanent improvement followed. This patient had received, prior to being admitted to the Upper Peninsula Hospital, a very severe burn, which necessitated amputation of her arm at the shoulder and subsequently quite extensive skin grafting. During the thyroid medication, the old wound, which had almost healed, took on an irritative condition, retarding granulation quite seriously. Her physical condition did not change, although she now shows a gain of five pounds in weight.

Blood examination: The red corpuscles were small and above normal in number from the beginning of treatment until the close, about five million per cubic millimeter. Leucocytes numbered 8,330 at commencement and 5,250 at close, showing a diminution of 3,080. There was sixty-seven per cent of hemoglobin at beginning, increased to eighty-five during the first week, second week seventy-seven, third eighty-two, and fell to sixty-four per cent at close of treatment, being lower than when treatment was begun. This case differs from the others in that the amount of hemoglobin was reduced, also the number of white corpuscles, while the red cells were not perceptibly influenced.

	RED CORPUSCLES.		LEUCOCYTES.	HEMOGLOBIN.
	Thoma-Leitz.	Centrifuge.	Thoma-Leitz.	
February 24:	5,072,000;		8,330;	67%
March 2:	5,528,000;		7,650;	85%
March 9:	4,992,000;	4,816,000;	6,840;	77%
March 16:	5,032,000;	4,312,000;	8,350;	82%
March 23:	5,056,000;	3,696,000;	5,250;	64%

Case III.—H. G., male, aged thirty years. Treatment begun with fifteen grains and increased to forty-five per diem. Before beginning treatment patient's temperature was 97°, on the third day 98°; on the sixteenth 99⅗°, the highest point reached during treatment, dropping again to 98° and remaining there during remainder of treatment. The pulse, which was 72 at beginning, increased to 100 and dropped again to 80 when treatment ceased.

This case was of more than ordinary interest: a young man of good family became depressed and attempted suicide by cutting his throat with a meat-axe. After being received at the hospital he was placed on appropriate treatment, such as tonics, exercise, gymnastics, games, et cetera, and everything done with a view to removing the cloud from his mental horizon. His case did not yield to this line of treatment: periodical depressed spells were becoming prolonged. At this time he was placed on thyroids. After two weeks' treatment the temperature began to increase, and *pari passu* the mental depression began to give place to a brighter, more cheerful and observing condition; so marked was the change in his general appearance that his friends, in visiting him, observed the improvement. No relapse has occurred and the periods of mental depression, which were quite frequent before, have entirely disappeared. The patient was discharged in every way much improved, and, to all appearances, entirely recovered. His physical condition was a great deal better, having gained twenty pounds.

Blood examination: The red cells were found to be normal, or slightly below, both in number and in size. At the commencement of the treatment they numbered 4,728,000, and about the same at the close. The leucocytes were below normal at commencement of treatment (5,900) and at the close numbered 8,230, being an increase of 2,330. There was ninety-one per cent. of hemoglobin at beginning and ninety-four per cent. at the close. This case showed a marked increase in the white corpuscles and a three per cent. increase in the hemoglobin, while the character and number of the red cells were not materially changed.

	RED CORPUSCLES.		LEUCOCYTES.	HEMOGLOBIN.
	Thoma-Leitz.	Centrifuge.	Thoma-Leitz.	
February 26:	4,728,000;		5,900;	91%
March 3:	5,096,000;		6,280;	90%
March 10:	4,680,000;	4,704,000;	8.500;	85%
March 17:	4,784,000;	4,256,000;	8,230;	94%

Case IV.—L. B., female, aged thirty-six years. Patient was under thyroid treatment one month, commenced with fifteen grains and increased to thirty per diem. The temperature was $98\frac{1}{2}$° when the first dose was given; four days later it was subnormal; on the tenth day it rose to $99\frac{2}{5}$°, the highest during treatment, and then ranged from 98° to 99° during balance of course. The pulse was slow at first, and remained so during the greater part of treatment, except during the last few days, when it ran up to 110 and 112. This patient's intellect was not very well developed. She had given birth to an illegitimate child, was anemic, and did not respond to chalybeate and other adjuvants for the building up of the mental and physical condition. She suffered from melancholia agitata and did not improve, either physically or mentally, as the result of this treatment. It is now four months since the treatment ended, but the same fixed delusions and hypochondriacal condition remains. Her weight fluctuated, and is now a little below what it was when treatment was discontinued. No blood examination was made in this case.

Case V.—L. H., female, aged thirty-three years. This patient is the mother of four children, and was suffering from a mild form of melancholia with hallucinations. Had been under treatment in the institution about eight months before beginning with the thyroid, without any benefit. Commenced with the usual dose and increased to twenty-five grains daily. Temperature increased about one degree almost immediately, and at the end of thirteen days reached $101\frac{1}{5}$°, declining gradually to normal and not rising again during remainder of treatment. Circulation increased gradually in conjunction with the temperature: when the latter was highest, the pulse was 100, showing an addition of forty beats, there being but sixty at commencement. At the close of treatment there was no improvement, either mental or physical; indeed the depression seemed to be more profound and a more anxious appearance generally. Treatment was ended on the 22d of December and she was then placed on genera tonics, together with electricity similar to that which had been given her prio to the thyroid treatment. Her weight now began to increase: during the firs month gaining ten pounds; the second month eight pounds; and on the 23d o the third month, when she was discharged cured, her weight showed an increas of twenty-two and one-half pounds. A dense mental cloud which seemed t hang over her less than three months before, and seemed to be deepening, afte this treatment gave away to a brighter, happier, more cheerful and appreciative responsive condition, which can only be appreciated thoroughly by her family, friends and those having her welfare at heart. No blood examination was made.

Case VI.—E. S., female, aged twenty-five years. This patient is the mother of two children. She was greatly depressed, and had been considered mentally unbalanced for upward of four years before being received at the Upper Peninsula Hospital. She had made an attempt to destroy her two-year-old child by burning. She began treatment by taking eighteen grains of thyroid daily, and increased to twenty-seven grains in two weeks. Her temperature, which was 97⅗° at beginning, on the third day increased two degrees and remained at 99⅗.° during the balance of treatment, with the exception of a brief interval when it declined to about normal, but immediately rose again. Examination of the urine revealed, at first, traces of albumin, with very few pus corpuscles, urea normal—two and eight tenths per cent.; at the close of treatment pus corpuscles had increased, and the specific gravity increased from 1012 to 1026. The pulse had increased from 68 to 116. Two weeks after treatment ceased her weight had increased six and one-half pounds.

Blood examination: The red blood cells were reduced, also the hemoglobin, the latter fourteen per cent., and the white cells increased about 1,000.

		RED CORPUSCLES.		LEUCOCYTES.	HEMOGLOBIN.
		Thoma-Leitz.	Centrifuge.	Thoma-Leitz.	
March	12:	5,072,000;	4,704,000;	7,530;	94%
March	19:	4,884,000;	4,704,000;	7,690;	90%
March	26:	5,040,000;	4,368,000;	7,640;	80%
April	2:	5,176,000;	3,696,000;	6,950;	82%
April	8:	4,364,400;	4,368,000;	7,030;	83%
April	15:	4,704,000;	4,256,000;	8,850;	80%

Case VII.—E. A. C., female, aged forty-five years. Patient was suffering from melancholia with delusions. She would sit in the hall, without apparently observing any object or person, from day to day. She suffered from hemicrania. In this case treatment was instituted by giving sixteen grains and this dose was increased to thirty-five. The temperature was normal at beginning, and was not increased throughout treatment, but decreased, being 97° at the end of thyroid medication. Circulation was much more affected than the bodily heat, increasing from 74 to 120 per minute during the first ten days of treatment. Urinal examination showed pus corpuscles, epithelium and traces of albumin present throughout treatment; specific gravity 1018; urea one and two tenths per cent. Her weight remained practically the same during treatment and afterward.

Blood examination: In this case the red blood corpuscles were slightly decreased and the white increased, the latter about 2,000. Hemoglobin remained substantially the same.

		RED CORPUSCLES.		LEUCOCYTES.	HEMOGLOBIN.
		Thoma-Leitz.	Centrifuge.	Thoma-Leitz.	
March	26:	4,448,000;	4,368,000;	5,160;	80%
April	3:	4,061,600;	4,256,000;	6,400;	82%
April	8:	5,088,000;	4,480,000;	6,950;	82%
April	15:	4,401,600;	3,696,000;	7,000;	80%

In the last two cases there was a marked change in the mental condition;

a despondent and forlorn appearance has given place to a brighter and more cheerful condition.

Case VIII.—P. F., male, aged forty-four years. Patient was suffering from stuporous melancholia. I began treatment with fifteen grains per diem and increased to thirty. The temperature was immediately affected, increasing from 98° to 101° on the third day after the treatment had commenced. On the sixteenth day it rose to 102°, declining again to 101° and remaining there during balance of treatment. Pulse was not influenced so much as the bodily heat, not varying more than twenty beats. Notwithstanding the temperature was markedly influenced there was no improvement in the mental activity. Pus as well as blood corpuscles and traces of albumin and epithelium were present in his urine. In this case the bodily weight was not changed to any appreciable extent.

Blood examination: The white cells, numerically, were not changed, the red cells were slightly diminished, while the hemoglobin was reduced fourteen per cent.

	RED CORPUSCLES.		LEUCOCYTES.	HEMOGLOBIN.
	Thoma-Leitz.	Centrifuge.	Thoma-Leitz.	
March 28:	4,548,000;	4,592,000;	6,850;	79%
April 4:	4,184,000;	4,144,000;	7,570;	76%
April 11:	3,700,000;	4,592,000;	6,660;	75%
April 18:	4,208,000;	4,480,000;	6,500;	65%

Case IX.—E. B., female, aged forty-four years, the mother of four children. The patient was suffering from melancholia gravis or hypomelancholia—great mental anxiety—and impairment of motion and inhibition, which dated back about one year from the time of the death of her husband, who was killed by an accident in a mine. There was an entire suppression of the menstrual molimen. Every remedy, therapeutic and otherwise, was exhausted in her behalf, without any permanent benefit. She began taking one five-grain tablet three times a day on March 28, 1898; on the fourth day after beginning treatment the temperature dropped to 97°. Twenty grains were now given and the system seemed profoundly impressed, the temperature arose to normal, dropping again to subnormal when treatment was relinquished on the eleventh day, on account of the increasing exhaustion. The pulse and respiration were increased slightly. The systolic cardiac impulse very much decreased. She lost eleven pounds in weight during the eleven days of treatment. No improvement in mental or physical condition either during treatment or since it has ceased.

Blood examination: Red corpuscles increased 728,400; leucocytes 1,330; and hemoglobin seven per cent.

	RED CORPUSCLES.		LEUCOCYTES.	HEMOGLOBIN.
	Thoma-Leitz.	Centrifuge.	Thoma-Leitz.	
March 25:	3,624,000;	4,144,000;	5,200;	70%
April 2:	4,362,400;	4,368,000;	6,530;	77%

THERAPY AND THEORY OF ACTION.

There are, according to some very reliable authorities, two main theorie advanced. The first is the autoinfection theory—the gland having for its function the destruction of the natural toxins; without the latter we have the condition known as myxedema. The second is the internal secretion theory—the thyroid being considered as a secreting organ. The secretion is taken up by the lymph vessels and is necessary for the proper metabolism of the body, especially for nervous and connective tissue. According to either of these theories, the administration of the desiccated gland supplies the lacking secretion, which may be some chemical substance that is necessary to the health or even the life of the body.

Ewald, in a pithy sentence, states that the gland acts as an antitoxin against certain elements that appear as by-products of tissue change. The exact constituents of this substance have never been definitely made known. An organic iodine compound from the sheep thyroid has been extracted, called thyro-iodine, and in the present state of our knowledge the weight of authority is in favor of this being the effective chemical agent of thyroid therapy.

The rationale of this treatment is not very clear. It may be of great value in mental diseases as a method of diagnosis, but it is difficult to comprehend just how this treatment could improve a case where degenerative changes have taken place in the cell structures. Based on the theory of autoinfection, frequently cases have occurred in which malaria, typhus and pleurisy were capable of developing in the blood antitoxins that have resulted in curing cases of mental disease. It is not unreasonable to suppose that in cases of mental alienation due, it may be, to some toxin, rather than to a lesion of the brain, the action of the thyroid is to promote metabolism. This being the case, the utility of thyroid therapy is obvious. In the series of cases treated by me, I have observed that those who were not benefited are developing symptoms of organic disease and passing into a condition of chronic dementia. While in those who were improved, it is a reasonable deduction, on the antitoxin theory, that the condition was functional, and that cellular disorganization had not taken place.

Nine cases received the thyroid medication and were under close medical supervision; in five cases there was a marked change for the better, the other four were not, so far as we could observe, favorably influenced, physically or mentally, either during the treatment or since. Three of the five who were improved began to increase in weight during treatment, and two of them did not until after treatment was relinquished. The psychological effect was observed almost from the beginning of treatment in those who were permanently improved.

It was noticeable that the minimum dose would produce a systemic effect in some more rapidly than a maximum dose in others. Every case requires close observation and the dose graduated in accordance with the effect produced upon the nerve centres and circulation, or, in other words, every case must be a law unto itself. Fifteen grains per diem was the maximum dose to begin with, in some graduully increased to fifty in accordance with the indications.

Blood examinations: These were made in order to determine the relative condition of the blood cells and coloring matter in cases of melancholia accompanied or without anemia; also the effect of the thyroid treatment upon the blood. It is now known that the color of the cheeks, lips, tongue, and conjunctiviæ are not a true guide as to the diagnosis in cases of anemia.

MEDICO-LEGAL QUESTIONS ARISING IN PERSONAL INJURY CASES.*

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I need not dwell upon the importance to the medical profession of personal injury litigation. It has recently been stated that one-half of the actions at law tried in the courts of New York State are of this character. Very few of these cases are tried without the aid of medical testimony. I propose to confine what I have to say to an important phase of this subject, which has received but little consideration from medical men.

The law does not give a right of action for every injury which may result from another's negligence. Negligence, to be the foundation for an action at law, must be the proximate cause of the injury. The maxim of the law is: "*Causa proxima, sed non remota, spectatur*" (the proximate, but not the remote, cause is looked at). The principle expressed in this phrase is well understood; the application of it to the varying facts in litigation is most uncertain. There is, I believe, no legal proposition concerning which our courts differ so much as they do upon this one of proximate cause.

In personal injury cases, this question is generally one involving medical knowledge, and it is, I am convinced, chiefly to the medical profession that we must look for aid in bringing to us both harmony and certainty in the law regarding this matter.

I wish to call your attention to the legal rules which have thus far been evolved, bearing upon the question of proximate cause and to interest you in the medico-legal phases by referring to a few of the cases which best illustrate these rules. It must be understood that I am dealing only with personal injury cases in which defendant's negligence and plaintiff's freedom from negligence are proven. The scope and meaning of our maxim are well explained by the Supreme Court of the United States as follows:

"What is the proximate cause of an injury is not ordinarily a question of science or legal knowledge. It is to be determined as a fact, in view of the circumstances of fact attending it."

"The primary cause may be the proximate cause of a disaster, though it may operate through successive instruments, as an article at the end of a chain may be moved by a force applied to the other end, that force being the proximate cause of the movement."

"The question always is, Was there an unbroken connection between the wrongful act and the injury—a continuous operation? Did the facts constitute a continuous succession of events, so linked together as to make a natural whole, or was there some new and independent cause intervening between the wrong and the injury?"

The importance of this question is apparent in actions brought for causing death. This remedy depends upon statutes which have been enacted in most of our states and the action is brought by the next of kin of the deceased person or by his administrator, for the benefit of the next of kin. Of course, the action fails, unless the wrongful act of the defendant proximately caused the death. The application of the rule we are considering is frequently difficult in these cases and the decisions do not seem to be wholly in harmony. The

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*Read before the Detroit Medical and Library Association.

United States Supreme Court has held that death was not the proximate result of an injury received in a railway accident. In that case, the deceased received injuries which affected his brain and spine, inducing him, some eight months later, to commit suicide.

On the other hand, in a Pennsylvania case, a shock due to the sudden starting of a street car caused premature childbirth; tetanus ensued, and death followed. These facts being explained by medical testimony, the jury was permitted to find that death was caused, proximately, by the starting of the car.

It does not seem to be necessary that death should result within any definite time and the common law rule in homicide cases fixing a year and a day as the extreme limit does not prevail in these cases. The injury seems to be far removed from the death in a New York case, where the kneecap of deceased was injured by his falling over a wire left by defendant across the street. An abscess formed; blood poisoning set in; gastritis ensued, and death occurred sixteen months after the fall. Defendant's negligence in leaving the wire across the street was decided to be the proximate cause of death.

It is frequently claimed, on behalf of a defendant, that death resulted from unskillful treatment given deceased after the injury and that, therefore, since death would not have resulted with proper care, the proximate cause of death was not defendant's negligence but, rather, negligent treatment. This contention has been uniformly rejected. The law says that if one who is injured by the negligence of another, seeks, in good faith, medical aid, the one causing the original injury is liable for all the damage which may result.

In New York State, recently, a passer-by was injured, due to the neglect of the city of Troy to erect a barrier between the street and an excavation. Death resulted from a mistake of the physician who was called to attend her. It was held by the court that if deceased in good faith and with reasonable diligence employed a physician to attend her, the city was liable for the death, though it would not have resulted with proper treatment. However, if death is caused by reason of the neglect of the injured person to care for himself, the act causing the original injury is not the proximate cause of death. Yet, the law does not require unusual care on the part of an injured person and, if the deceased took reasonable precautions for his health, the fact that he did not adopt the best remedies or that he did not follow explicitly his physician's directions, would not relieve the defendant of liability for resulting death.

In a New York case, the injured man refused to allow amputation of his leg, though so advised by his physician. The physician testified that amputation "would have improved his chances." The jury was instructed that if deceased was not negligent in rejecting the physician's advice, the negligence of defendant was the proximate cause of death.

In cases where death does not ensue, several other medico-legal questions arise, which bear upon the measure of damages to which plaintiff is entitled.

In the first place, we must remember that, in negligence cases, the law provides only for compensatory damages to the injured person. Such damages may include any or all of the following elements: (1) plaintiff's necessary expenses; (2) his loss of time; (3) his diminished earning power; (4) his physical suffering; and (5) his mental suffering; so far as defendant's negligence has been the proximate cause of his damage in these particulars. There is no place in such cases for any award as damages beyond this.

Now, it frequently happens that an injury, which if received by one in good health would be trivial, by occurring to one having a tendency to disease or being in a weak physical condition, becomes quite serious in its results. In such a case is the proximate cause of plaintiff's serious illness the negligence of defendant, or is it, rather, plaintiff's own feeble or unhealthy condition? Many cases show that, under such circumstances, defendant is liable for all of the damage resulting to plaintiff.

In a Wisconsin case, a scrofulous boy fell upon a defective sidewalk and received an injury to his arm which resulted seriously. The defendant city claimed that the boy's injury was due chiefly to his previous physical condition. The court held, however, that the city was liable for all of the damage suffered by plaintiff, adding that sidewalks are intended for the use of the scrofulous as well as of whole persons.

In Maryland, one having a tendency to cancer was allowed to recover his entire damage against one whose negligence resulted in plaintiff's having cancer, though the consequence of the injury, if received by a well person, would not have been serious.

However, it is well understood that if a person has a disease which is aggravated by the negligent act of defendant, he can recover damages only for the aggravation; that is, for the difference between his condition before and after the injury. Such was the decision in a case where plaintiff, who was suffering from Bright's disease, was injured by defendant's negligence which resulted in an aggravation of the illness.

With the advancement in medical science during recent years the possibility of successfully feigning physical disease is slight, but, in cases of mental distress or disease, when the symptoms are necessarily largely subjective, it is still possible, if not very simple, for dishonest plaintiffs to impose upon the courts. Our medical men may be advanced much beyond the knowledge and acumen of THACKERAY's surgeon who diagnosed a case of insanity because BARRY LYNDON proclaimed himself to be JULIUS CAESAR and the doctor to be his affianced bride, CLEOPATRA. And, yet, they are by no means, equal to the task of deciding with any certainty whether one who professes to be suffering from nervous disease has that illness, or whether the disease, if genuine, resulted from a particular cause.

The intangible character of mental and nervous diseases and the difficulty of verifying their existence, are doubtless the reasons why courts have in many cases denied or limited the right to damages for such suffering. However, it seems to be illogical to refuse compensation to one whose health has been impaired as a result of fright, but, to give damages to one who has been struck a slight blow having no serious results.

We may consider three classes of cases involving mental suffering: (1) Fright unconnected with any substantial injury to the person, either physical or mental; (2) Direct physical injury to the person, resulting in, or accompanied by, mental pain or disease; and, (3) Cases where there is no direct physical injury, but as a result of fright, disease, either mental or physical, ensues.

In the first class of cases the law usually allows no recovery. Mental suffering is a proper element of damage only when it is connected with some substantial injury to the person. It has been said by some courts that this is so, because mental suffering is "vague," "sentimental," and "metaphysical." I apprehend, however, that this cannot be the reason why the law does not allow an action in favor of one who, as a result of another's negligence, has suffered mental anguish unaccompanied with physical injury; because the law does allow damages for such injuries in many other cases when the injury, in this respect, must be equally "vague" and "sentimental." The sufficient reason why such an action cannot be maintained is because the law has not yet recognized mental anguish, apart from physical injury, as a cause of action.

This rule is illustrated by a Texas case in which defendant's locomotive frightened plaintiff's horse causing it to run away. Neither plaintiff, who was driving, nor the horse was injured. Plaintiff was not permitted to recover for the fright which she suffered.

However, the injustice of denying a right of action for mental anguish alone in all cases has induced some of our courts to modify, or as some think, to overrule, this principle in certain cases; and the present uncertainty of the law upon this question is shown in the decisions of the various courts in actions against telegraph companies for negligence in not promptly delivering telegrams. In 1881 the Texas supreme court sustained the right of the addressee of a telegram to recover damages for the mental suffering he endured because, by reason of the delay in the delivery of a message announcing his mother's death he was prevented from attending her funeral.

This decision was a new application of legal rules, if not the creation of an entirely new remedy, and the doctrine contained in it has come to be styled the "Texas rule." The same question has, since then, been passed upon by a large number of the courts of our various states and they are about equally divided upon it, one-half following the Texas cases, and the other half denying the right of action under similar facts. If increased litigation is a sufficient reason for refusing damages in such cases, the facts have fully sustained the reason; for, in Texas and in other states following its lead, we find the books filled with reports of actions of this kind and these courts have already begun to limit the scope of their earlier decisions.

The same Texas court has denied damages to a plaintiff who claimed to have suffered mentally because the family carriage did not meet him at the station upon his arrival home due to the failure of defendant company to deliver his telegram.

On the other hand, it is well established that, in the second class of cases, that is, when one has suffered a direct physical injury due to the negligence of a defendant, the plaintiff may recover both for the physical damage suffered and also for all the mental suffering and anguish which have resulted from defendant's negligence. Not only does the law in such cases give compensation for mental pain suffered by plaintiff up to the time of trial, but it even adds as an element of damage all future suffering, mental as well as physical, which the plaintiff is likely to endure.

Some cases seem to carry this rule to an extreme. In Vermont one who was bitten by a dog, not mad, was allowed damages for the apprehension of hydrophobia from which plaintiff might in the future suffer. In Michigan, a boy whose arm was maimed was given compensation not only for future loss of earning power and pain, but also for the permanent annoyance or humiliation he would endure.

However, it is said that such future damages, whether physical or mental, must not be speculative, that is, they must be reasonably certain to occur. This limitation is well illustrated by a New York case in which DOCTOR SPITZKA was a witness. The doctor testified as to the plaintiff's present condition, tending to show epilepsy. In answer to a question as to what plaintiff's future condition might be, he answered, "A patient sustaining such injuries and presenting such premonitory signs may develop traumatic insanity, meningitis or progressive dementia or epilepsy with its results." The court of appeals held that the testimony was objectionable because it violated the rule that "To entitle a plaintiff to recover damages for apprehended future consequences there must be such a degree of probability of their occurring as amounts to a reasonable certainty that they will result from the original injury." This rule, although it seems to be just when considered in the abstract, requires, when applied in many cases, a greater degree of certainty than medical science can give. The more careful and experienced physicians can frequently answer only in the doubtful language used by DOCTOR SPITZKA in the foregoing case, and it results that lawyers, in order to bring their evidence within the limits prescribed by the above rule, call as medical experts men who are willing to state as certain to result what the profession knows is only problematical.

Upon the right to recover in the third class of cases our courts are divided. They are agreed, on the one hand (with the exception above noted in actions against telegraph companies), in denying a right of action for mental fright or anguish only, and on the other hand, in awarding full damages for mental as well as physical suffering when connected with a direct physical injury; but decisions from courts of last resort are at variance when the question is applied to cases where, as a result solely of fright, there ensues physical or mental disease. Many cases sustain the right of action upon this state of facts.

Recently, in England, a passenger on defendant's train was much frightened by reason of the car running violently down an incline and suddenly stopping. There was no physical injury; but, as a result of the fright, plaintiff suffered from nervous shock. A recovery was permitted.

In a Minnesota case the plaintiff was a passenger on defendant's street car. At the intersection of another line, the car was driven in front of an approaching cable car. No collision occurred, although it seemed to be imminent. The fright due to the incident threw the plaintiff into convulsions and caused a miscarriage. The court held that, though no action lay for mere fright, yet, for physical injury which was the result of fright there could be a recovery. And in that case, if fright was a natural result of defendant's negligence, and if the fright produced convulsions resulting in plaintiff's illness, then the negligence of defendant was the proximate cause of plaintiff's injuries and she was entitled to a verdict.

On the other hand, some courts have refused to allow damages under similar circumstances.

In an early New York case a woman who was frightened by a runaway horse, as a result of which she suffered serious nervous disease, was held not to be entitled to recover. In that case, the horse barely missed striking her. If it had done so, she would have been entitled to compensation for her fright and mental anguish as well as for her nervous troubles.

A most instructive case upon this point is a recent one, also in New York. The plaintiff was about to enter one of defendant's horse cars. Another car approached and the horses swerving to one side, almost but not quite, touched the plaintiff and so frightened her that a miscarriage resulted. In the supreme court it was held that she was entitled to recover. The court of appeals (being the court of last resort in New York), however, denied her right to an action. Among other reasons for this conclusion the court said: "If the right of recovery in this class of cases should be established it would naturally result in a flood of litigation in cases wherein the injury complained of may be easily feigned without detection and where the damages must result upon mere conjecture or speculation. The difficulty which often exists in cases of alleged physical injury, in determining whether they exist, and, if so, whether they are caused by the negligent act of the defendant would not only be greatly increased, but a wide field would be opened for fictitious or speculative claims. To establish such a doctrine would be against public policy."

The late Austin Abbott, in commenting approvingly upon the decision of the supreme court in this case, before it had been reversed by the court of appeals, says: "We understand that highest medical authority regards the principle laid down in this case as in accordance with well recognized facts in medicine. It is an admitted fact that mental shock is quite as capable of producing disease as is physical injury. Many diseases known to the medical profession are the direct outcome of nervous shock. There are many forms of such disease. To instance only a few, some of the most violent forms of chorea, commonly known as Saint Vitus' dance, are due to fright. Mental shock has also frequently been known to produce a disease of the heart, known as Graves' disease. Shock of the kind suffered in this case, therefore, enters into the causation of disease, recognized as such by all medical authorities. When mental shock is of a depressing kind, for example, severe fright, it is very likely to produce insanity if followed by sleeplessness. These are only illustrations that go to show that disease may be so frequently traced to mental shock that we can say that shock is a true cause, and not merely a concomitant. Then, too, there are many diseases which owe their intensity in large part to shock, but of which the shock is hardly the cause, but rather an aggravating circumstance.

"In this case," . . . "there can be no doubt that the miscarriage may have been the result of the shock experienced by plaintiff. Shock is certainly capable of producing such a result, and it is of no consequence how far the pregnancy may have advanced."

It is in the conviction that the questions I have suggested must eventually be solved upon a scientific basis and with the aid of the medical profession, that I propose them to you, with the hope that by enlisting the interest of medical men, the law may, in these respects, become settled upon just and sure principles.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, FEBRUARY 21, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

THE regular meeting of the Detroit Medical and Library Association was held in the amphitheatre of Harper Hospital. DOCTOR A. M. PHELPS, Professor of Orthopedic Surgery in the New York Post-Graduate Medical School and Hospital, delivered an address on the subject of "Clubfoot," with especial reference to Phelps' operation. A large and representative gathering of the medical profession of the city were present and listened with much interest to the address. The doctor demonstrated his subject by performing a series of four clubfoot operations. Among other things he said:.

"The subject of clubfoot is one of very great importance to the profession on more accounts than one; first, because there is such a difference of opinion in regard to the treatment of it; second, on account of the lamentable failures which we observe in its management. In operating upon clubfoot we should follow a method; we should cut the parts that offer resistance beginning with the tendo Achilles and cut and cut until the foot is supercorrected."

The various steps of the operation were shown and their necessity described in detail, the case presented being a young lady seventeen years of age who had been operated on four times without success. The feet were dressed by placing sterilized rubber tissue over the open incision in order to retain an aseptic clot which, becoming organized, fills in the space and prevents gaping of the wound. Gauze dressings were then applied and lastly a plaster of Paris bandage to retain the feet in the desired position.

"In applying the plaster of Paris bandage you will observe that I go against the deformity. The application of these bandages is absolutely worthless unless you put a large amount of gray matter along with them. You ask me if there is any danger from hemorrhage? I say no. Do not prick an artery or you will get an aneurism. You must cut it through, then you can control it by pressure. You ask me also if this will not injure the foot? My observation in over seven hundred cases is that it does not injure the foot, and for the reason that all of these tissues again unite as perfectly as they were before they were cut. The power of flexion of the toes is lost only in a very small percentage of cases, and even if it were it is not of great importance. The toes I believe are rudimentary. Our ancestors used to climb trees with them and the future man will be able to dispense with them. If you do not succeed in straightening the foot upon cutting all the resisting structures drive the chisel through the neck of the astragalus. If that does not succeed make an incision along the os calcis and and take out a V-shaped piece of bone. From tenotomy to open incision, from open incision to linear osteotomy. I had to do one PIROGOFF'S operation in seven hundred cases. The operation does not cure the foot by any means. We have now placed these feet in such a position that the weight of the body will operate to prevent relapse. You must watch them a long time after the operation, and by the application of bandages keep them in the corrected position until there is no possibility of relapse. Primary osteotomies should be discarded. The place for open incision is between subcutaneous tenotomy and osteotomy. Do not make an open incision if subcutaneous tenotomy will suffice; do not make a subcutaneous tenotomy if manipulation will straighten the foot; do not do a bone operation until you have done what we have done tonight. The open incision should be adopted in every case of clubfoot in which there is shortening of the skin on the inner side of the foot. Now, my observation has been that in my last series of four hundred and fifty cases osteotomies are wholly unnecessary. I have done a great many osteoclases of the tibia and fibula. That is a legitimate operation which has to be resorted to in clubfoot where the tibia has become inwardly rotated. In 1878 I had a case of clubfoot in a child four years of age come to me that had been operated on three or four times. I operated by subcutaneous tenotomy with a failure. The mother became disgusted and told me if I could not straighten them to cut them off. I started in to cut them off—or straighten them. I proceeded in the manner which has been followed here tonight and got the most beautiful results. I prepared a paper for the New York State Medical Society and was unceremoniously taken by the scruff of the neck and dropped from the second story window as it were. Six years after I read a paper before the International Medical Congress at Copenhagen on the open incision for clubfoot. It was accepted by the German surgeons. Surgeons throughout the country have operated and have written me that it was the meanest operation in the world. I suggested and perfected the operation shown here tonight, and when you stop short of it call it your operation—not mine."

A brief resume of the various methods adopted from early times down to the present date for corrections of these deformities was given by the doctor.

"In 1878 I introduced the method of open incision. There is no mortality from this operation. If you get at these cases early enough you may be able to correct the deformity by manipulation, and the time to begin is just as soon as you are sure the mother is out of danger from postpartum hemorrhage. If you do this you will cure ninety-five per cent. of your cases. Manipulate and fix. These two terms must go together. If these measures fail resort to open incision."

DOCTOR DONALD MACLEAN: I will not detain you more than a moment, because in the first place the hour is getting late; in the second place you have had a very rich intellectual and surgical treat, a very beautiful lesson, a wholly complete demonstration of one of the most interesting and the most difficult subjects in the whole domain of surgery. I can add nothing to what DOCTOR PHELPS has said. I have gone through all that experience, and I can certainly endorse most earnestly and enthusiastically every word that the doctor has said upon this subject. His demonstrations, his operations, his anatomical descriptions and illustrations of the principles of his operation seem to me to be exceedingly complete, scientific and satisfactory. You will all recognize this fact, which lies at the foundation of all these advances in surgery, that it is truly one of the most beautiful results and climaxes of antiseptic surgery. Before the days of aseptic surgery such operations as the doctor performed here tonight would have been cruel, barbarous, unfortunate and disgraceful. Instead of that they are humane, scientific and successful. It is applicable in other departments of surgery, for example, in the operation of wry-neck, in which the tissues involved are of extreme importance and delicacy. The operation was a dangerous one until the days of antiseptic surgery, but is now easy of performance. My friend, the President, intimated that I had personally some connection with the orator of the evening in his early career, and that is true. More than twenty-five years ago I had the honor of having him for a pupil when his mind was young and plastic, and my own faculties a little more energetic than they are now. I do not believe there can be any greater satisfaction, as the shadows of life lengthen toward the evening, than to listen to one of my own students to whom I gave the first lessons in surgery, and see him make such a splendid appearance as he has done before you this evening. I have only one regret in this matter, and that is that two of the gentlemen who were associated with me in starting our friend on his brilliant surgical career are not here to enjoy the privilege I have had this evening. I refer to DOCTOR FROTHINGHAM and DOCTOR McGRAW.

DOCTOR LAFERTÉ: I have never had the pleasure of meeting DOCTOR PHELPS until this evening, and yet I feel as if I had met an old friend; at least I have met an old teacher. I have given this subject of orthopedic surgery some little study, and felt like a failure in curing clubfoot until, through the medical journals, I became acquainted with DOCTOR PHELPS' method of operation. One of my colleagues asked me as I came in if I had a case for the doctor that would stick him. My experience at the Children's Free Hospital, where we have used this method for the last eight or ten years, has been very satisfactory. Since adopting it we have to record simply two mishaps—one was a recurrence of the trouble, the other was occasioned by our anxiety to correct the deformity, which assumed the position of talipes valgus. When we look at the anatomy of the human foot and consider the structures involved we can understand the wisdom and correctness of DOCTOR PHELPS' method of operating. I know that during my early years of practice I followed very closely the teachings of most of our principal authorities on orthopedic surgery—PRICE, SAYRE and others. All these, of course, advised performing the operation by the subcutaneous method, first of all telling us not to touch the tendo Achilles but to cut the plantar fascia leaving the tendo Achilles as a fulcrum. I adopted this method but it was unsatisfactory and recurrence would take place. In performing the operation I follow practically the same method as the doctor described this evening. I have adopted a method of dressing the foot a little different from that employed by the doctor simply for the purpose of being able to inspect the foot. I usually take a piece of sole leather and after shaping it to the foot and leg I place a pad on the outside of the foot opposite the incision to act as a fulcrum, then bandage from the toes upward in order to bring the foot in the overcorrected position, after which I bring the upper portion of the splint downward, bandaging it firmly to the leg, and in this manner fix the foot in the position in which I desire to have it. If the patients are going away from us, if we fear that there may be recurrence of the trouble, we guard against that by taking an ordinary pair of shoes and put upon the outside of the sole a piece of sole leather thicker upon the outside than at the centre of the sole and thus keep the toes pointing out. We have not had to resort to clubfoot shoes at all.

Doctors Wyman and **Nancrede** said they had nothing to add except to congratulate **Doctor Phelps** on the success of his operation and the brilliant results that had followed its adoption.

STATED MEETING, MARCH 21, 1898.

The President, ANDREW P. BIDDLE, M. D., in the Chair.
Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Clarence A. Lightner read a paper on "Medico-Legal Questions Arising in Personal Injury Cases." (See page 316.)

Judge Philip T. Van Zile: I was asked to be present and criticise **Professor Lightner's** paper. I am glad that that does not mean that I must necessarily give you any adverse criticism. I have not had time to arrange any paper by way of criticism or by way of defense. I simply had the privilege of reading it over this afternoon, but I desire to add my testimony in this respect, that the paper in my judgment is not only a correct discussion of the principles of law, but it is very exhaustive and elegantly arranged, and I have no doubt that it has been instructive to you. It certainly has been to me. There are a few ideas that suggest themselves to me with reference to the paper. One of the things that is striking and somewhat alarming is the great number of cases that are now being brought for personal injury in proportion to the cases that were formerly brought. I could not help but remember that this great increase has grown up within the past twenty years. Twenty-five years ago personal injury cases were by no means as prevalent and numerous as they are now. I could not help but reflect too that there are a great number of cases brought that have no foundation whatever, that in the circuit court, for instance in the county of Wayne, where we have resident judges and a good deal of the time the aid of additional judges from outside, the business of the court is, as we may say, obstructed by reason of the prevalence of cases that are brought for personal injury. It is an alarming thing to contemplate that we have such things in the larger cities as broker's offices who have their men on the ground on every occasion when any injury happens picking up the cases, looking after some testimony that is sufficient to possibly found a case upon, and that these brokers are making a livelihood and some of them a good yearly income by way of farming out these cases to lawyers who are willing to lend themselves to that sort of business. I have wondered whether or not the legal profession and the medical profession ought not to unite in some way in order that this class of cases might be reduced and the court relieved from this sort of litigation. In our circuit courts it is not an unusual thing to see cases that never reach the jury. Many of the judges are suspicious of these cases when they see them upon the docket. They do not understand whether they are the kind of cases which should receive recognition in the courts of justice or not. Another idea, of course, that the paper itself has already furnished is the kind of damage that can be recovered for, especially in the Michigan court. Now, the sort of damage that can be recovered for is damage that is called compensatory damage.

In order to get at that, of course, a great deal depends upon the testimony that is given by the medical witnesses. Here it seems to me that the physicians of the country must feel that they are burdened with a duty to the public especially in cases wherein the injury is alleged to be permanent injury, for they are not only to arrive at what the present injury is but they are also to determine what the injury will be in the future. That often is a very serious question. Now, I take it that the medical profession, as well as the legal profession, is not entirely made up of angels, nor those that expect to be angels, and sometimes it results that testimony is given by the medical profession in such a doubtful way that damages are obtained when they ought not to be. The hypothetical question is always a bugbear to some physicians at all events. One of the things that is suggested along the line of hypothetical questions is that the physician is very apt to answer the question not by the facts that are given in the question but they add to the facts something that they themselves know and testify to with reference to some facts that they think must necessarily be given. That, of course, is a very unfair thing to the attorney who is trying the case. If the physician confines himself entirely to the facts that are in the question there can be no harm done, but if he adds to the question that which he feels and knows ought to be coupled with the question and that fact is not before the court and is not given to the attorney so that it can be discussed, then there is a great injustice done. Attorneys, of course, are very much to blame if they do not frame the hypothetical question in a way to cover the case, and this leads me to say that there are a great many cases tried that are very illy prepared. It seems to me that a very important thing in the trial of cases of this kind is that the attorney should be posted and study his cases in company with some physician, that is, a physician that understands his business so that he can comprehend exactly the condition of the case in all of its medical aspects, and in that way the hypothetical question can be framed. I believe too that this hypothetical question should be framed and understood before the case is brought into court, and whoever is to testify for the attorney in the trial of the case should have that question before him and understood. If that were done a great deal of trouble might be avoided and the case might be more satisfactorily settled. If you go into court with the question half framed it often results in a discussion between the physician and the attorney, and the court in order to settle the case before the testimony is half through renders a judgment while the physician is testifying to what might happen and the question as to what has happened is generally left out. These are questions which are worthy our attention both as lawyers and as doctors.

Doctor Mann: In common with those present I am sure I can testify to the great appreciation in which we hold Mr. Lightner's paper. He has called attention with renewed emphasis to the very important functions exercised by the medical profession in the trial of cases of personal injury. He tells us that in the most populous, and therefore in some respects the most representative city of the Union, the city of New York, that over one-half of the cases which come into the courts are cases of personal injury in which negligence is alleged, and in which the aid of the physician's testimony is demanded by the court in order that justice shall be done. He tells us that the law endeavors to deal with all of those cases by means of a fixed principle, a principle which is contained in the legal maxim: "*Causa proxima, sed non remota, spectatur.*" It is in this matter of determining what is the proximate and what is the remote cause in an injury that all the difficulties of the physician practically begins; it is in determining this that the true medical expert is able to win his brightest laurels, and it is also true that in determining this that the expert usually fails and covers medical expert testimony with disrepute. As far as angels are concerned the medical profession has just as great expectations as the legal. Now, let us consider some of the cases which MR. LIGHTNER has enumerated this evening. He tells us that a man trips on a wire lying across the sidewalk. From this he bruises his kneecap, an abscess ensues, from this general septicemia occurs and then sixteen months later the man dies from gastritis and recovery is obtained for the original injury. Let us think of the vast amount of medical learning it must take to substantiate that chain of evidence; let us also think of the very great opportunities that are presented for false reasoning in such a case. Again, as MR. LIGHTNER says, a man with scrofula falls and is seriously injured. What is the proximate cause here—is it the sidewalk or the scrofula? How can we determine this question? Is it not hypothetical? If we are, as JUDGE VAN ZILE has suggested, to assist the legal profession in the promotion of justice it seems to me that we must cultivate a new kind of medical expert. The medical expert must be a man who has trained his senses, who has cultivated his judgment in particular directions; he must be one who is able to separate a conclusion from a fact. He must be one who is able to separate the medical facts of a case from the merits of the case. It is only by such sort of medical expert testimony that we can hope to cooperate with the legal profession in the detection of falsehood, in the discovery of wrong, and in the promotion of justice.

DOCTOR INGLIS: JUDGE VAN ZILE has made the point that it might be a good thing if the medical man and the lawyer would get together and mutually help one another. I think this meeting tonight is a good illustration, and it would be well if we could have them oftener. The medical expert has a great deal to learn yet. We ought also, I think, to get at the lawyers and illuminate their understandings also. That brings to my mind the thought that there is very much of the ridicule and contumely heaped on the medical expert. Much of it he is justly entitled to, but some of it he is not, and no small part of the disgrace, if one may call it so, brought upon the medical expert is due to the thing which JUDGE VAN ZILE refers to, and that is the extraordinary nature of the hypothetical question. When a medical expert gets on the witness stand he must either put himself in a position of saying I do not know (which is always mortifying), or else he must help the judge and attorneys to straighten out that hypothetical question, and the reason of it is a very simple one. DOCTOR MANN has alluded to the matter, which is the basis of it all—that the following out of the various consecutive steps which lead from the cause to the effect involves contemplation and careful weight being given to a great variety of questions. I think the judge's suggestion, that the attorneys in getting up the hypothetical question should do so in consultation with the medical man, is the correct solution of the difficulty in all cases of litigation wherein medical or other expert testimony is called, for it has occurred to me that a commission of experts would be of great value. I know it is said in opposition to that idea that if a commission of experts were appointed that politics would enter into the matter, and the commission would be appointed on political grounds. I believe that objection hardly holds. It is true that great damage may result from purely nervous shock. The courts seem to recognize the thing which they see and they are inclined to discredit the thing which cannot be seen. A broken bone is pretty sure to bring an award for damages, but in a case wherein the nervous system is so damaged that the patient is obliged to live permanently on a lower plane of life owing to some nervous shock which did not damage the tissues so far as is visible to the observation, the courts are exceedingly likely to say there is no evidence that the injury caused the damage, yet I think every medical man who meets with the traumatic neuroses, as we call them, has brought to his mind the actuality of that condition.

DOCTOR HITCHCOCK: I have been very much instructed by MR. LIGHTNER's very able paper. The feature of it that dwelt especially in my mind was the decision of the Texas court in ruling as admissible as a cause for action cases in which no nervous lesion or visible lesion of any kind was shown or alleged, but wherein only mental suffering was alleged. If all courts were similarly so to rule I could see no other outcome than that the dockets of our courts should be extraordinarily encumbered with claimants seeking recovery for damages for alleged mental suffering. It is well known that in cases of personal injury the so-called railway spine has come to be recognized as the great bugbear to the legal man as well as to the medical. Railway corporations have been especial sufferers at the hands of such cases.

EDITORIAL ARTICLES.

THE DENVER MEETING.

THE fifty-first annual meeting of the American Medical Association is now a bit of history. Following at once upon the semicentennial celebration in the city of its birth, nothing if not a lesser event could be expected. It was a surprise therefore that the registration at the Denver meeting exceeded that at every other except the next previous one, and considering the honorary membership of the ladies, that it was possibly the largest of all.

The attendance was not, however, its sole excellence. The consensus of opinion freely expressed was that the sections were unusually well attended by the older and representative members, who gave to the discussions unwonted zest and interest. The active work of the sections was cut short by one day, and yet the usual number of papers were considered. The general sessions were characterized by vim and sharp parliamentary practice consistent with harmony and the dispatch of business. The Association was exceedingly fortunate in having in DOCTOR HAPPEL so capable a presiding officer. The interest in these meetings will always be enhanced under the guidance of such an executive.

Both the profession and laity of Denver and Colorado exceeded the anticipations of their guests in the general preparations for the meeting and the special attractions for their enjoyment. CHAIRMAN PRICE, of the section on obstetrics and gynecology, publicly stated that never to his knowledge had that section been assigned to more comfortable and pleasant quarters. The receptions, the excursion "around the loop," the dainty and delicious lunch and hospitality at Idaho Springs, the same at Colorado Springs, and the many courtesies to the visiting ladies were all given and received with the utmost cordiality.

Despite many obstacles and the exigencies of the war, Michigan was tolerably well represented. That she was in evidence was indicated by the election of Doctor H. O. Walker to the presidency of the American Medical College Association. This organization, though young, has already made itself felt to a marked degree. By a resolution passed by the American Medical Association no candidate will in the future be accepted as a member who is either a graduate or a teacher in any medical college requiring of its graduates less than four years of study. This is a long step in advance, and will necessarily strongly influence medical education in this country.

ANNOTATIONS.

VISUAL HYGIENE.

Hygiene and sanitation are hackneyed terms, and yet hygiene of vision is rarely mentioned unless by the enthusiastic specialist; and then only to be too often condemned as the mistake of a fanatic. The solicitude concerning our own optics and those of our friends if not the increasing duties of our own colleagues, the opthalmologists, should cause us to halt and heed their friendly admonitions. Doctor S. Busby Allen has recently, in the *New York Medical Journal*, called attention to the "violation of three important laws of visual hygiene: Use of the eyes with *incorrect and insufficient illumination; too prolonged use of the eye; reading bad print.*" The examples he adduces clearly illustrate the flagrant and yet common manner in which these laws are broken. As he states, we all know, or ought to know, what is good and bad print, and "the prolonged use of the eye is a relative matter." Correct illumination is a more definite term, and while not vital is of sufficient importance to merit consideration in the arrangement of all work rooms and offices as well as school rooms.

THE INVASION OF CUBA.

Grim war is on. It is a struggle of and for the sake of humanity and was inevitable. Of its favorable outcome we feel assured. Cost what it must we shall stand fearlessly before the tribunal of history and hear its verdict. Under propitious circumstances the waging of war is most cruel and sacrificial. War and peace, however, know no seasons, nor places. Our armies are therefore found invading a tropical region in a comparatively unfavorable time. Moreover, former campaigns in the East and West Indies have taught us the danger of pestilence. We realize in it a deadlier foe than the invidious Spaniard and ven yet are prepared for it. Whatever may be the martial efficiency of the command we rest assured that our soldiers go forth protected by qualified and scientific medical service. It should be a source of great gratification to the profession that "the powers that be," as though realizing the dependence of the issues upon medical aid and advice, and the moral support arising therefrom, have forborne personal ambitions and administered office untainted by political strife. Of this we need no other guarantee than is given by the sterling worth of those already gone. Godspeed and long life to our gallant medical corps.

CONTEMPORARY.

HOSPITAL STAFFS SHOULD BE PAID.

[CLEVELAND JOURNAL OF MEDICINE.]

It is a sad fact, but none the less a fact well recognized by all of us, that the medical profession of today in America does not, as a whole, receive that respect which is due it as a learned and philanthropic profession. It is also true that as a consequence of this deficiency of respect the profession finds it all but impossible, as a whole, to secure the remuneration for its services which should be in keeping with that of the other professions, let alone the true value of the services to the community. This lack of respect is not often spoken of among us, and yet each one of us sees more or less evidence of it every day. There is no need to specify the ways in which this is shown, as we all know them but too well. The cause and the remedy are the matters of importance. One great cause, if not the chief one, is, we believe, the lack of respect the profession shows for itself in bartering away its services for little or nothing, and in submitting to freely presenting our knowledge to vast numbers of people. As an abstract humanitarian principle it is right for us to succor the sick poor without price, but as a sociologic act it is a grave question if our doing so is not a serious factor in promoting poverty, shiftlessness and weak dependence, as well as a great damage to ourselves. It is wholly and absolutely wrong and immoral, and should be considered unprofessional conduct, for any physician to give his services free of all charge to any hospital, dispensary or other corporation organized for the care of the sick and injured. If one of us chooses to give his services freely to a sick individual, all well and good, but it is a curious and sinful distinction that has arisen in our institutional work where nurses, superintendents, attendants and all other employees, except the physicians, whose work is the most important and essential, are paid for their labor. Charitable organizations should pay their physicians just as they do their nurses or their gardeners. There is no justification whatever for the present method of conducting these institutions. If the physicians attached to these institutions were paid as they should be, we would hear no more of the superabundance of hospitals and dispensaries. Herein lies the true remedy for the "dispensary evil," which is being fought so hard now in the eastern cities. Here also is the only remedy for the lack of respect shown the profession. How can a sensible and hard-headed public be expected to regard as rational beings men who deliberately throw away their best services, not for the sick poor mind you, for we can do all that in our offices, but for some corporation organized to care for the sick in the easiest and most approved fashion—a corporation which expects to pay good wages to all its employees except those whose services are absolutely essential, its physicians. And why does not the corporation expect to pay its physicians? Simply because we are fools enough to think we can increase our private practice by borrowing something from the luster of the institution to which we are attached. It is purest mock-heroics to say we do it for charity, because it is not true and because charity is far better done in another way. Yet the nurse is said to give her life, or some years of it, to "charity," but she gets her week's wages, as does the clergyman whose whole time is thus taken up. Charity organizations can just as well raise money to pay their physicians as to pay their nurses, and if this resulted in fewer such organizations neither the profession nor the deserving poor would be the losers thereby. Until the medical profession grasps this fact, which should be self-evident and not even need stating to be accepted as true, just so long will the public look upon us, and more correctly than should be, as a set of harmless idiots of some use to the sick, but whose opinions are to be received with a raising of the eyebrows and a compassionate aside. In our own hand lies wholly our attaining that respect which all acknowledge is due our calling, and the abatement of the overabundance of hospitals and dispensaries, which increase the number of paupers and render more helpless those already such, which sap the vitality and self-respect of the profession, which cause nine-tenths of intraprofessional strife and "politics," which detract from the dignity of the profession, and which rob the old as well as the young physician of the cases and remuneration that are his by right. An awakening is at hand, and the present generation of physicians will live to see steps taken to at least initiate the correction of these evils.

MEDICAL NEWS.

THE AMERICAN MEDICAL ASSOCIATION.

The recent Denver meeting enjoyed the distinction of being the largest gathering—with one exception—in the history of this organization, the registration having reached sixteen hundred. The next meeting will occur at Columbus, Ohio, June 6, 1899. In the meantime the following officers will have charge d'affaires of the association: President, Joseph McDowell Mathews, M. D., of Louisville, Kentucky; first vicepresident, W. W. Keen, M. D., of Philadelphia, Pennsylvania; second vicepresident, J. W. Graham, M. D., of Denver, Colorado; third vicepresident, H. A. West, M. D., of Galveston, Texas; fourth vicepresident, J. E. Minney, M. D., of Topeka, Kansas; secretary, William B. Atkinson, M. D., of Philadelphia, Pennsylvania; treasurer, Henry P. Newman, M. D., of Chicago, Illinois; members of the board of trustees, Alonzo Garcelon, M. D., of Maine; I. N. Love, M. D., of Saint Louis, Missouri; H. L. E. Johnson, M. D., of Washington, District of Columbia; X. C. Chappel, M. D., of Boston, Massachusetts.

A NEW SOURCE OF TYPHOID FEVER.

The Secretary of the State Board of Health has recently issued the following bulletin pertaining to typhoid fever infection: "Recent reports to the State Board of Health show that at least two cases of typhoid fever have been caused by drinking the water in or from the Kalamazoo river. In no case should water be used for drinking or culinary purposes from a river or stream into which sewage is emptied or privies are liable to drain; and as most of the rivers and streams of this state have towns situated upon or near their banks, from which sewage is received, and privies are liable to drain, therefore it is very dangerous to use the water from any of the rivers or streams for any culinary purpose whatever, except the water be first boiled, and it should not, in any case whatever be drank, unless previously boiled. Cases have been reported wherein typhoid fever has been contracted by bathing in streams. Probably this will be most likely to occur through accidentally or carelessly taking the infected water into the mouth. Especially should no person bathe in any ordinary stream just below any city, village, or other source of sewage or privy drainage."

MICHIGAN DOCTORS IN MILITARY AND NAVAL SERVICE.

THE commission and disposition of the doctors of Michigan at present in service on land and sea is as follows:

Michigan State Naval Reserve:

Delos L. Parker,	Detroit,	Past Assistant Surgeon.
B. R. Shurly,	Detroit,	Apothecary.
W. R. Parker,	Detroit,	Ensign.
B. D. Parker,	Detroit,	Landsman.
R. S. Linn,	Detroit,	Seaman.
W. S. Connery,	Saginaw,	Landsman.

31st Michigan Volunteer Infantry:

Andrew P. Biddle,	Detroit,	Surgeon.
Chas. D. W. Colby,	Jackson,	Assistant Surgeon.
Frank K. Owen,	Ypsilanti,	Assistant Surgeon.
M. L. Belser,	Ann Arbor,	Lieutenant.
Allen D. McLean,	Detroit,	Hospital Steward.

32d Michigan Volunteer Infantry:

L. D. Knowles,	Three Rivers,	Surgeon.
J. L. Burkhart,	Grand Rapids,	Assistant Surgeon.
Odillion Weed,	Detroit,	Assistant Surgeon.

33d Michigan Volunteer Infantry:

Victor C. Vaughan,	Ann Arbor,	Surgeon.
Louis W. Pease,	Saginaw,	Assistant Surgeon.
Guy G. Bailey,	Cheboygan,	Assistant Surgeon.
Charles B. Marks,	Cheboygan,	Hospital Steward.
Fred W. Palmer,	Brooklyn,	Hospital Steward.

34th Michigan Volunteer Infantry:

James A. King,	Manistee,	Surgeon.
John A. Bobb,	Calumet,	Assistant Surgeon.
Julius M. Wilhelm,	Traverse City,	Assistant Surgeon.

35th Michigan Volunteer Infantry:

O. P. Barber,	Saginaw,	Surgeon.
H. A. Grube,	Coldwater,	Assistant Surgeon.
S. B. Sandall,	Au Sable,	Assistant Surgeon.

Special:

Donald Maclean,	Detroit,	Division Surgeon.
Charles B. Nancrede,	Ann Arbor,	Brigade Surgeon.

MINOR INTELLIGENCE.

THE fifth International Congress of Hydrology, Climatology, and Geology will be in session at Liege from September 25 to October 3. The Belgian mineral springs of Spa and Chaudfontaine are in close proximity to the city chosen as the place of meeting, and members will be afforded an opportunity of making side trips to these noted resorts as well as to Aix-la-Chapelle, Verviers an Ostend.

THE Leiter Hospital at Chickamauga, Georgia, was dedicated to the rece tion of patients on the 9th ultimo. It is the gift of Mrs. L. Z. Leiter, of Chicag and is in charge of Captain T. W. Carter, of Surgeon-General Sternberg's staf It is intended as a place of sojourn for soldiers not seriously ill, a numbe of whom have already been transferred to its comfortable quarters from fiel hospitals.

THE permission of the Washington authorities, has been asked to establish Red Cross headquarters at all permanent American military posts. Miss Clara Barton, president of the National Red Cross Society, inaugurated the movement which contemplates supplying medical aid and other relief to Uncle Sam's soldiers. The innovation will be in charge of Red Cross officers but subject to military direction.

AT the suggestion of Doctor Barré a new army biscuit consisting of thirty-three parts of gluten to one hundred parts of wheat flour and a small quantity of fat, has recently been manufactured for the French army. The ration is first made in the form of bread and baked in an oven, after which it is broken into crumbs which are shaped into small biscuits by means of a hydraulic press, sugar syrup being added to insure proper consistency to the product.

THE annual meetings of the following national medical associations will occur during the present month: The International Association of Railway Surgeons, Toronto, Ontario, 6–8, under the presidency of Doctor George Ross, of Richmond, Virginia; the American Otological Society, New London, Connecticut, 19, under the presidency of Doctor Arthur Mathewson, of Brooklyn; the American Ophthalmological Society, in the latter city on the 20th, under the presidency of Doctor George C. Harlan, of Philadelphia.

PROFESSOR DELEPINE, in a recent address on "Tuberculosis and the Milk Supply," made the statement that an inspection of the cattle slaughtered in the abattoir at Manchester, England, revealed a condition extremely prejudicial to public health. Forty-one per cent. of the cows were affected with tuberculosis, and taking all the animals together, nearly twenty-eight per cent. presented symptoms of having the disease. In cases of advanced tuberculosis six of every thirty-six cows were afflicted with tuberculosis of the udders.

A NATIONAL society for the study of epilepsy was recently organized in New York City. Forty-four members of the medical profession, representing eight states, were present at the meeting, which occurred at the Academy of Medicine. The following officers were elected: Hon. William Pryor Letchworth, LL. D., of New York, president; Doctor William Peterson, of New York, first vicepresident; Doctor William Osler, of Maryland, second vicepresident; Doctor William P. Spratling, of New York, secretary; Doctor H. C. Rutter, of Ohio, treasurer.

AT the forty-eighth annual meeting of the Illinois State Medical Society, recently held at Galesburg, the following officers were elected for the ensuing year: President, Doctor T. J. Pitner, of Jacksonville; first vicepresident, Doctor Harold N. Moyer, of Chicago; second vicepresident, Doctor J. T. McAnally, of Carbondale; permanent secretary, Edmund W. Weis, of Ottawa; assistant secretary, Doctor W. F. Grinstead, of Cairo; treasurer, George N. Kreider, of Springfield. The next meeting will be held at Cairo the third Tuesday in May, next.

THE Thirteenth International Medical Congress will be held at Paris in 1900. The organizing committee recently held its first meeting and elected the ollowing officers: President, Professor Brouardel; vicepresidents, Professors Bouchard and Marey; general secretary, Professor Chauffard; treasurer, M. Duflocq. The executive committee consists of Professor Lannelongue, chairman; M. Chauffard, general secretary; and MM. Bouchard, Bouily, Brouardel, Dieu, Gariel, Le Dentu, Malassez, Nocard, Reymond, Rendu and Roux. The 2d of August, 1900, has been provisionally determined as the date on which the ormal opening of the Congress will occur.

The Kingdom of Saxony contained 745 quacks in 1896. The woman contingent embraced 163 of this number. The legally qualified medical practitioners registered 1761, making the ratio of quacks to regulars, approximately, one to two. This vast army of pretenders posed as specialists in the following lines: "Nature healing," 220; "symathy," 106; "homeopathy," 97; "massage," 72; "magnetism," 46; and "tapeworm," 19. An adroit movement of minor specialties undoubtedly captured the wavering flank of healers unaccounted for in this muster.

The University of Michigan recently became the recipient of a bequest from Doctor Elizabeth H. Bates, of Port Chester, New York. The will bequeathes property which yields an income of $6,000 a year, subject to an annuity of $1200, and specifies that the money is to be expended in supporting a chair of diseases of women and children in the medical department. The testator graduated from the Woman's Medical College of Pennsylvania in 1854, and left an estate valued at $200,000 which she is reputed to have accumulated in the practice of medicine at Oswego, New York.

The Association of American Medical Colleges convened in annual session at Denver on June 6. The annual address was delivered by President J. W. Holland, M. D., of Philadelphia, and Doctor Montgomery S. Crockett, of Buffalo, read a paper entitled "Medical Education Needs Better Pedagogic Methods." The following officers were elected for the ensuing year: President, Doctor H. O. Walker, of Detroit; senior vicepresident, Doctor H. Bert Ellis, of Los Angeles; junior vicepresident, Doctor G. E. Woody, of Louisville; secretary and treasurer, Doctor Bayard Holmes, of Chicago.

An outbreak of yellow fever recently occurred at Fort McHenry, Mississippi. On June 13 nine cases prevailed, fifteen having been noted since May 20. Fort McHenry is a small village situated on the Gulf Port and Ship Island railroad, and contains a population of 323 whites and 67 colored. The town was immediately surrounded by guards and infected houses watched. Sanitary precautions had reduced the foci of infection from eight to six on the 13th ultimo, and the disease has been prevented from spreading beyond the confines of the Mississippi town in which its debut was reported.

The third PanAmerican Medical Congress will be held in Caracas, Venezuela, Christmas week, 1899. The committee on organization has been appointed and consists of the following: President, Doctor José Manuel de los Rios; first vicepresident, Doctor Nicanor Guardia; second vicepresident, Doctor José I. Cardozo; third vicepresident, Doctor Alfredo Machado; treasurer, Doctor Luis Ezpelosin; recording secretary, Doctor Luis Razetti; corresponding secretary, Doctor Francisco A. Rizquez; and Doctors B. Mosquera, P. Acosta Ortiz, H. Rivero Saldivia, E. Ochoa, M. A. Seco, S. A. Dominci, E. Rodriguez, and M. Herrera.

Doctor John Blair Gibbs, of New York City, is the first physician in Uncle Sam's command to be sacrificed in the Spanish-American conflict. He was killed by a stray bullet just after leaving the hospital tent during the battle at Guantanamo, Cuba. The doctor was born in Richmond, Virginia, in 1859 received his medical degree at the University of Pennsylvania in 1881, an practiced fourteen years in New York City, where he also graduated from th College of Physicians and Surgeons in 1882. His literary education wa obtained at Rutgers College. When war was declared he was connected wit the New York Postgraduate Medical School in the capacity of instructor in special surgery. Memorial services to Doctor Gibbs were held at Trinity Church, New York City, Thursday, June 23, at 1 o'clock.

THE eighteenth annual meeting of the Ontario Medical Association was held in Toronto on the 1st and 2d ultimo. The election of officers resulted in the following selection: President, Doctor W. J. Gibson, of Belleville, Ontario; first vicepresident, Doctor J. F. W. Ross, of Toronto; second vicepresident, Doctor I. Olmstead, of Hamilton; third vicepresident, Doctor W. J. Rowe, of Georgetown; fourth vicepresident, Doctor Neil McCrimmon, of Kincardine; secretary, Doctor John W. E. Brown, of Toronto; treasurer, George H. Carveth, of Toronto.

THE following officers were elected at the recent annual meeting of the American Pediatric Society held in Cincinnati, June 1 to 3: President, Doctor W. P. Northrup, of New York; first vicepresident, Doctor G. N. Acker, of Washington; second vicepresident, Doctor Irving M. Snow, of Buffalo; treasurer, Doctor E. M. Buckingham, of Boston; secretary, Doctor S. S. Adams, of Washington; additional members of the council: F. Forchheimer, of Cincinnati; editor, F. M. Crandall, of New York. The next meeting will be held at Deer Park, Maryland.

THE Chicago Society of Internal Medicine has recently been organized by a number of physicians in the windy city. Only gentlemen of acknowledged reputation in internal medicine were eligible to charter membership, and future admissions will involve an approved thesis upon some subject within the realm of disease considered by the society. The following officers were elected: President, Doctor John A. Robison; vicepresident, Doctor John H. Hollister; secretary, Doctor Edward F. Wells; treasurer, Doctor Lester Curtis; censors, Doctors Henry M. Lyman, Henry B. Favill, and Arthur R. Edwards.

ANOTHER new treatment for pulmonary tuberculosis was proclaimed by Doctor Joseph B. Murphy, of Murphy-button fame, at the recent meeting of the American Medical Association. It contemplates repair of the lung by producing immobilization of the diseased area. To effect this condition nitrogen gas is injected into the pleural sac and allowed to remain until the focus of infection is surrounded by connective-tissue formation, when the gas is withdrawn and the lung reexpanded. One hundred and forty cubic inches of nitrogen gas were injected by the author in one case. The method is adapted to the incipient stage of tuberculosis. The gas may retain possession several months without causing discomfort or damage.

RECENT PUBLICATIONS.

REVIEWS.

DISEASES OF THE NERVOUS SYSTEM.*

THIS manual is not intended to take the place of any large work on neurology, but it is comprehensive and admirably adapted to the needs of students and general practitioners who desire an introduction to the study of this subject. The two chapters on case-taking and the modes of examination will be found especially useful. The style is attractive and the general arrangement of the work systematic and clear.

*By Charles E. Beever, M. D., London, F. R. C. P., Professor to the National Hospital for the Paralyzed and Epileptic, The Great Northern Central Hospital and The National Orthopedic Hospital. With illustrations. Philadelphia: P. Blakiston, Son & Company, 1898.

LEGAL MEDICINE.*

We were so favorably impressed with the first volume of this series of "Medical Hand-Atlases" that it made succeeding volumes most welcome. A perusal of this work does not bring disappointment. The author has not pretended to furnish much descriptive matter. It is not necessary. The large collection of illustrations, original in fact, portray medico-legal occurrences more clearly than words can tell, and in this respect furnish a most valuable supplement to textbooks on this subject. The English edition is truly a work of art.

*By Doctor E. Von Hofmann, Professor of Legal Medicine and Director of the Medico-Legal Institute at Vienna. Authorized translation from the German. Edited by Frederick Peterson, M. D., Clinical Professor of Mental Diseases in the Woman's Medical College, New York; Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York, assisted by Aloysius O. J. Kelly, M. D., Instructor in Physical Diagnosis, University of Pennsylvania; Adjunct Professor of Pathology, Philadelphia Polyclinic; Visiting Physician to Saint Mary's and Saint Agnes' Hospitals; Pathologist to the German Hospital, Philadelphia. Fifty-six plates in colors and 193 illustrations in black. Philadelphia: W. B. Saunders, 1898. Cloth, $3.50 net.

HYGIENE AND SANITATION.*

This subject has been so fully developed and widely discussed that public sentiment has already made authoritative demands. Physicians least of all can afford to be ignorant of the fundamental principles of prophylaxis. This volume is well calculated to meet their wants. From the abundant scattered literature the author has collected the accepted and more advanced knowedge of the subject, and disposed it in a most convenient form for the use of both undergraduate and postgraduate students. Dissertation and technicalities are avoided. The work is comprehensive and at once concise.

*By Seneca Egbert, A. M., M. D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. In one handsome 12 mo. volume of 360 pages with 63 engravings. Cloth, $2.25 net. Lea Brothers and Company, Publishers, Philadelphia and New York.

DISEASES OF THE LARYNX.*

In this the third volume of the new series of "Medical Hand-Atlases" the author has happily blended both didactic and clinical material in an original and most desirable manner. The atlas proper is prefaced with terse introductory remarks on the anatomy and physiology of the larynx, hints and methods of examination, and a comprehensive statement of the causes, pathology and treatment of diseases of the larynx. The plates constitute, however, the most valuable portion of the work. They are precise and remarkably true to nature. They merit a wide circulation.

*By Doctor L. Grünwald, of Munich. Authorized translation from the German. Edited by Charles P. Grayson, M. D., Lecturer on Larygology and Rhinology in the University of Pennsylvania; Physician-in-Charge of the Throat and Nose Department, Hospital of the University of Pennsylvania. With 107 colored figures on 44 plates. Philadelphla: W. B. Saunders, 1898. Cloth, $2.50 net.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

ADDRESSES.

THE RELATION OF ANATOMY TO SURGERY AND MEDICINE.*

BY WILLIAM FULLER, M. D., GRAND RAPIDS, MICHIGAN.

PROFESSOR OF ANATOMY AND APPLIED ANATOMY OF THE NERVOUS SYSTEM IN THE GRAND RAPIDS MEDICAL COLLEGE.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THOSE who have preceded me have commonly directed your attention to the great progress and to the achievements of the science of surgery, or have reviewed the advances made since the last meeting. As almost every phase relating to the science of surgery has from time to time been so ably and exhaustively discussed, it has been difficult for me to make choice of a subject which is new and which will awaken and sustain the interest of those whom I am to address. I shall occupy the short time allotted to me in pointing out the educational requirements of the practical surgeon, and the importance of a more careful attention to the study of anatomy and its relation to surgery and medicine. In doing this I have no intention of reflecting upon the methods of teaching, which are now, so far as I know, the same as those employed in former times, but to call attention to the fact that this most important and fundamental branch of medical education has suffered by neglect to a very great extent, so that it is seldom or ever that we hear of any institution of medical learning priding itself on being an anatomical school.

I think there are two causes to account for this change of opinion of the importance of anatomical knowledge, or rather for the neglect of the study of anatomy by the medical students. Of these causes the first is to be found in the scarcity of the supply of anatomical material on account of the multiplicity of medical colleges, the great number of medical students, and the defective legislation relating to the supply of subjects. With few exceptions the medical colleges of this country are composed of joint stock companies, created for the private interest of the originators, and as a result of competition among the various schools it may sometimes happen that the interests of the student is made secondary to that of economy in order that the investment may be one of profit to the stockholders, or that economy is necessary to the preservation of the existence of the school. The great increase in the number of medical students is the natural result of an overcrowded community, for humanity is governed by laws which are similar to those of material and force in which excess flows into every channel, and especially in those in which there is the least resistance. Medicine is an alluring occupation to many young men and women because it is generally supposed to be easy and profitable, and the physician has an honorable standing in the community, hence the great number of persons ever ready to fill up the seats provided by the private medical schools which abound in every city. On account of the deficiency of material to supply the anatomical laboratories I am informed that in some of the most reputable schools a student is required to dissect only an upper and lower extremity during one session, and that in some instances the dissection of one extremity is sufficient to credit him with a year's work. One dissection of the entire body was in some cases all that was required for graduation.

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*The Annual Address of the Orator of the Section on Surgery and Ophthalmology of the MICHIGAN STATE MEDICAL SOCIETY, delivered at the Detroit meeting.

Thirty years ago medical students were obliged to dissect the body two or three times each term for three successive years, and many of them the fourth year also, either from choice or as prosectors in surgical anatomy. Anatomy was given the most prominent position in the medical curriculum, the proficiency in which was sufficient to excuse defects in some of the other branches of study.

The other reason for the present neglect of anatomy has arisen from the establishment of the laboratories in chemistry, physiology, pathology and bacteriology, besides the introduction of studies upon comparative anatomy and embryology, all of which may be of great scientific value, but certainly they have deprived the medical student of the time and opportunity necessary to the acquisition of that knowledge which in practice will be of every day use to him in the diagnosis of disease and at the side of the operating table.

If we make a comparison of the requirements for graduation of the medical students formerly with those of today, it will be observed that what was then lacking of a knowledge of the adjunct sciences just mentioned was fully compensated by the attention given to the fundamental and practical branches of anatomy, physiology, materia medica and chemistry during the primary years, in order to fit them later for the practical application of this knowledge to the study of the practice of medicine and surgery, diagnosis and treatment, at the bedside and in the operating room.

Thus equipped it was quite safe to turn a man loose upon the community to practice his profession as a physician and surgeon, and with his common sense as a guide there was little danger that he would make any mistake of a serious nature.

The danger attached to the introduction of so many collateral subjects into the medical curriculum is that knowledge is spread over so large a surface that it is too thin to be practical. If the medical course is of too long duration, education takes the place of originality, the mind of the student is often warped into prejudices difficult to eradicate, and he may become entirely dependent upon the opinions of and a mere imitator of his masters.

Many of the best physicians and surgeons which the country has produced were men who had received a moderate education and practiced their profession in obscure localities, and the necessity of relying upon their own judgment in great emergencies produced in them that great reliance which afterward brought them distinction.

Common sense is a factor which must not be extinguished. OLIVER WENDELL HOLMES has well said "that education is a proper decoration for the upper stor if the ground floor is furnished with common sense." We have observed som surgeons, bacteriologically trained, of high potency, who habitually take s much care and time in surgical operations that the unfortunate patients a placed in jeopardy by shock, or sent into a chill by protracted simple dressin These are constantly surrounded by ghosts, and are driven into a state o hysterical apprehension by the sight of a trace of pus, doubting that a compe tent surgeon should be able to treat successfully any surgical condition tha occasion might present, whether it be one of a septic or an antiseptic condition of the wound. Useless operations have been performed and useful limbs have been sacrificed upon the altar of the microbe theory which the old fashioned surgeon would have preserved without the least thought of any other expectation than that such cases would recover. In saying this it is not in disparagement of the principles of asepsis, in which I am a firm believer, but of the abuse committed by prejudice.

In medicine it is the same as in the science of physics, that a few simple fundamental and grand principles stand out prominently as safe guides to the practical physician and surgeon, and are applicable to almost every case with which he has to deal. Prominent among these are: "The taking off the spasm of the extreme vessel" of CULLEN, or in modern idiom "The equalizing of the circulation;" the elimination of the morbid products of disease by acting upon the excretory organs; tranquilizing the mind and the nervous system by the relief of pain and distress; support and stimulation; drainage and asepsis.

Common sense is to be exercised not only in the use of the means to bring about the desired result, but also in the estimation of the character, condition and the ability of the patient to withstand the effects of medicine or of a surgical operation. Whatever knowledge or skill may be possessed by the physician or surgeon of the actions of medicines or the steps of operations, if he fails to estimate the condition of his patients he is a very unsafe man in practice, for learning is a dangerous thing unless applied with good judgment and an honesty of purpose. I am of the opinion that a practical education in any calling should not be sacrificed to the acquisition of mere learning, for if some part of the dress must be dispensed with, let it be the ribbons and the feathers rather than the garment. Practical medicine and surgery consists of diagnosis and the proper treatment of disease. The distinctive characteristics of a physician of the rational school is that he always makes a careful diagnosis of his cases before attempting any treatment for which he is unable to give a just reason.

In this respect there is no difference between medicine and surgery. Surgery is the cure of a surgical disease, with the least amount of injury and of loss of parts to the patient, if possible, refraining from the use of the knife. The surgeon makes as careful a diagnosis, uses the same principles in the treatment of his cases as the physician, to whose peer he has been elevated by his discretion and conservatism.

The ability of the physician and the surgeon as a diagnostician is measured by his knowledge of anatomy, without which either would be in a position of a mariner without chart or compass.

Let us briefly consider the essentials of anatomy required for purposes of diagnosis. One should be familiar with the outlines of the human body, the natural lines upon the naked figure should be carefully contemplated by the student, and the several points which are in straight lines upon the surface noted, in order that any deviation of the anatomical lines may be discovered at once. Why should it be necessary to roughly grind the end of bones together to discover a crepitus, if a fracture can be detected by the eye of the surgeon, for surely the cruelty of incapacity is not less than that of heartlessness. In order to assist the student in remembering the outlines of the body he should when dissecting be required each day to sew up the parts, so that by preserving the shape of the body as long as possible the relation of the surface with the parts exposed by the dissection is retained.

The several regions of the body should be mapped out and learned along with the organs beneath and contained in them. The lines of the skull and the situation of the convolutions and the fissures of the brain should be carefully studied so that he could instantly place his finger upon any of them. The superficial nerves and the surfaces to which they are distributed should be marked out, and his attention called to the areas of anesthesia which would occur from injuries to certain nerves and certain segments of the central nervous system.

In this study I have been much assisted by the use of a small model upon which the superficial nerves are delineated.

The surgical spaces and the relations of the deeper parts can be learned only by repeated dissections and by the study of sections. The memory of the deeper parts can be much assisted by the use of generalization and by the grouping of the muscles together according to their action as taught by the late Professor Ford of Ann Arbor, and is of much value in diagnosis. The study of the relations of motor and sensory nerves in connection with the law of the distribution of the sensory and motor portions of compound nerves is very important. All nerves as far as possible should be brought together under this law of distribution as a very valuable assistance in diagnosis. The nerve supply to the muscles and the plexuses should be studied in relation to each other, because each muscle is supplied from as many sources as the various action into which it enters, and it is by distinguishing the defect in one of its activities that a central lesion is detected, or whether the disease is situated in the muscles or in the central nervous system.

The relations of the peripheral nerves, the tracts and centres in a central nervous system, *must* be known before we can expect to become acquainted with their functions or be able to make further progress in the diagnosis of nervous diseases, for disease speaks by manifestations of the nervous system, and if the language is to be understood it must be through a knowledge of the nervous structure. The study of the nerves is of much greater importance than that of the arteries, since the permanent disabilities left after surgical operations are often the result of injury to them. Formerly great stress was laid upon the anatomy of the blood-vessels, but now that hemostasis is so well provided for by the use of forceps, et cetera, the fear of hemorrhage from a surgical operation is a thing of the past. A careful study of the peripheral distribution from the several segments of the spinal cord, including the sympathetic ganglia with which they are associated, and the connection of these with the viscera, would throw much light upon the causation of obscure reflex nervous disorders, such as neuralgias, spasms, anesthesias, paralyses, certain eruptions on the skin and emotional disturbances. Neurology, divested of much of its refined terminology, is destined to occupy a large share of the attention of the medical student. The various simple and compound movements of the body ought to be studied in connection with the muscles, nerves and motor centers in the brain in order to familiarize the student with these associations and the locations of the cerebral centers of motion. Attention to the normal reflexes may not properly belong to anatomy, but they could be studied with advantage in connection with it, which might lead to the discovery of the nerve arcs through which they are produced. The respiratory reflexes deserve especial attention, because by a knowledge of them life may be saved by prompt action in an emergency. The student should be drilled upon every sensory impression capable of exciting the inspiratory act from tickling the nostril to the stretching of the sphincter ani.

The following are a few illustrations of diagnoses which have been made from a knowledge of anatomical relations and which at the time of their occurrence excited the admiration and the surprise of those who witnessed their verification at the autopsies: Abscess in the frontal lobe of the brain; tumor in the same locality; clot in the angular gyrus; two cases in which the prominent symptoms in each were ptosis, divergent squint and dilated pupil—one of these was disease in the cavernous sinus and the other in the right crus cerebri the distinguishing mark of the former being that these symptoms were associated with a pain over the orbit, while in the latter there was a paresis of th opposite upper extremity; a case of abscess of the pons Varolii; a case c softening of an anterior pyramid of the medulla opposite the olive; a case o contraction of the aorta at the side of the body of the fifth dorsal vertebra; case of aneurism confined to the first and second portions of the arch of th aorta; a case of depressed ulcer in the duodenum on its posterior wall jus beyond the pylorus. Many other cases might be mentioned in illustration o diagnoses which were made from knowledge of the relations of anatomical parts, but these impressed me at the time with the great importance of exact anatomical knowledge, though some of them occurred when I was a student. The one last mentioned was a diagnosis made by DOCTOR R. P. HOWARD, professor of the practice of medicine in McGill College, Montreal, who, as a diagnostician, had few if any superiors.

I think it will bear repetition to say in closing that the practical branches of medicine should be taught to the medical student first and well. We might do well to follow the English example of grading the practitioners of medicine. With them the apothecaries prescribed medicines over the counter for common and slight ailments; the doctor visits patients at their homes for a small fee; the physician, who is the highest practitioner, is called in severe cases; and the surgeon attends to the surgical cases and performs operations. Each of these four classes of practitioners are required to pass examination in all the practical branches of medicine and surgery, but the physician is required to take a much more extended course in the collateral medical sciences. The advantage of the English method over ours is that theirs is practical from below up, while with us the student is overwhelmed with numerous studies at the same time, all of which to him are of equal importance and divert his attention from that which is practical, so that at the end of three or four years he is launched upon the community in a state of mental confusion, from which he may possibly recover after a more or less protracted period of time. Some of the subjects taught in the medical schools should be put either into a preliminary scientific course with natural science, or else in a postgraduate course of instruction, for which a special diploma and a title might be awarded to such as have fulfilled an advance course of study.

Advanced courses of study, as a preparation for the practice of specialties, for positions in the army and navy, railway surgeons, health officers, physicians to asylums and other institutions, would be of great service in qualifying men to fill these responsible positions. If such degrees of qualification were established by the medical schools, it would follow shortly that such degrees would be recognized by legislation and that appointments would be made from among those who were especially adapted by a particular course of study. If some such plan of medical education should be adopted there would be less excuse for the neglect of the primary and practical branches of medicine.

MEMOIRS.

VITALITY AND THERAPEUTICS.*

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HE who wishes to maintain himself on firm ground in his advances toward the solution of the mysteries of disease, and who in his attempts to bring back disordered vital action within the bounds of health, would be armed with every resource, must first have his conceptions of health clear-cut and comprehensive. Right views of physiology must precede a correct pathology and a rational therapeutics can only follow as they lead. Physiology reduced to its essential factors deals with phenomena which are termed *vital* in organized structure in contradistinction to the phenomena exhibited by inorganic matter.

Vitality is a characteristic of both animal and vegetable organism and its manifestations, though differing in degree and complexity at various levels of animal or vegetable development, yet in both kingdoms its lowest and simplest manifestations furnish us with an order of phenomena essentially unique when compared with the phenomena of the inorganic world. Yet no brief or concise definition can be formulated that will serve to distinguish living from nonliving things. In an attempt to define vitality we are obliged to content ourselves with an enumeration of certain fundamental properties such as nutrition or assimilation, reproduction, conduction and contractility which together constitute a series of phenomena not exhibited by nonliving matter.

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*Read before the MICHIGAN STATE MEDICAL SOCIETY at the Detroit meeting.

So essentially different is the deportment of living from nonliving things that it has appeared to many that the entrance of life into the world necessitates the assumption of a force or energy other than those preexisting and operating in matter. They who hold this view are termed "vitalists" in distinction from those who hold the mechanical view of the origin of life, whose belief is that vitality is but a higher or special manifestation of the operation of chemical and physical energy in matter.

While vitality seems to have introduced a new order of phenomena into the world of sense perceptions it uses for the myriad varieties of forms and activities which it exhibits in the vegetable and animal kingdoms the same matter and energies with which we are already to some extent familiar in the inorganic world. It is seen by those who hold the latter view that organized beings, exhibiting vitality, do this through the agency of a material protoplasm which is composed of oxygen, hydrogen, carbon, nitrogen, sulphur, chlorine, phosphorus, potassium, sodium, fluorine, calcium, silicon, magnesium and iron exhibiting chemism, radiant and electric energy and mechanical movement. Matter and motion are here engaged in acting and reacting, the one upon the other, in obedience, it is presumed, to the same laws which we have discovered to rule them in circumstances where life is not an accompaniment of their interplay.

These operations of matter and energy in the inorganic world, when the conditions are adapted to the work, are seen to result in varied forms of marvelous complexity of arrangement, beauty of form and color, and with attributes peculiar to each change. Thus water is transformed to the wonderful forms which are seen in the snow-flakes, and dull carbon to the brilliant diamond. Crystals are built up of all imaginable shapes and designs and when marred by a blow exhibit the capacity to repair the damage done. We have learned the lesson of the indestructibility of this matter and of the energy inherent in it. The former while it may be forever entering into new associations and combinations with properties corresponding to the changes, yet never loses the identity or number of the elements which compose it, for when separated and reexamined at any time they can be all accounted for and are found to have lost nothing of their weight or other attributes; and the latter,—the various energies with which physics has made us somewhat familiar,—exhibits a wonderful adaptability to transformation and interchange of motion but without loss, each when it disappears leaving an exact equivalent in other forms and thus conserves the whole.

We have observed in all departments of animate and inanimate nature what appears to be the order of development—a gradual progression from the simple to the complex—becoming more and more evident as knowledge increases. All phenomena that come within the range of sense perception seem to adapt themselves to the evolutionary plan.

Since then evolution is the method by which the universe has been built up, and the various forms of matter and energy as we know them in the inorganic world have shown themselves capable of doing such marvelous things, what right have we, ask the advocates of the mechanical theory of the origin of vitality, to assume that chemistry and physics or in other words atoms and the various energies inherent in them, are impotent to effect such associations and movements as constitute the structure and properties of living protoplasm as seen in the simplest of vital forms? And if this is conceded as possible, and the lowest living organisms, vegetable or animal, are thus evolved who can deny that all life as we see it exhibited in every form of organized beings, from the lowest to the highest, may not be traced by a gradual evolution from such beginnings?

These are legitimate and proper questions for the scientific investigator to propose to himself, and he would be untrue to the trust imposed in him if he should hesitate to take the necessary steps to answer them. No unnatural barriers should be raised to check the inductive method of research; nor will any such be tolerated. Science can be trusted to fix her own metes and bounds, for it is well recognized by many of her faithful and able followers that all human knowledge is not dependent for its reality and demonstration on sense perceptions.

It has been only since the essential properties of life in both the vegetable and animal kingdoms have been found to uniformly exhibit themselves in connection with the protean substance termed protoplasm that any well directed efforts have been made or lines of research planned to solve the problem of the chemical and physical origin of life.

It may be said that there have not been wanting advocates of both the vital and mechanical theories of vitality from the earliest historic accounts that record the opinions of thinking men; but only in recent years have the conditions been reached that have rendered possible the kind of research that is necessary to give to the result the nature of a demonstration.

The biologist was needed to make known to us the vital characteristics of protoplasm, and the physiological chemist to reveal its molecular structure and elementary constituents. With the information which these have been able to furnish, great activity has been shown in recent years in all manner of attempts to drive the life principle into a corner where it could be captured and forced to reveal the secret of its origin. With what confidence many of our knights of science have set out upon this quest, or encouraged others to do so, may be shown by a few quotations:

John Tyndall, in his "Fragments of Science," after stating it as his belief that a mass of matter cast off from the sun and set spinning in the form of a separate planet, would in the process of cooling give origin to organic forms, goes on to say: "If these statements startle, it is because matter has been defined and maligned by philosophers and theologians who are equally unaware that it is, at bottom, essentially mystical and transcendental."

Maudsley, in "Body and Mind" (page 373), says: "Biology must plainly of necessity be the last and most difficult study, for it presupposes the other sciences as vital force presupposes inferior forces; but it is the evident tendency of advancing knowledge to bring life more and more within the compass of scientific observation. And if it be sometimes made a reproach to science, as it was by Comte that it has not discovered the laws of life, it may well rest calm under the censure, pointing to the history of the earth to show that nature having done all else, required a long period before it accomplished the evolution of life."

Professor George F. Barker, in the *Popular Science Monthly* for September, 1880, says: "The rapid march of recent organic synthesis makes it quite certain that every distinct chemical substance of the living body will ultimately be produced in the laboratory; and this from inorganic materials. Given only the exact constitution of a compound and its synthesis follows. When, therefore, the chemist shall succeed in producing a mass constitutionally identical with protoplasmic albumin, there is every reason to expect that it will exhibit all the phenomena which characterize its life; and this equally whether protoplasm be a single substance or, as some believe, a mixture of several closely allied substances."

The speculation of the chemist as to the possibility of molecular arrangements of matter effecting, under certain circumstances, such relations as might give rise to vital manifestations are still further set forth in an address by Professor Aug. Kekulé, of the University of Bonn, as follows: "The hypothesis of chemical quantivalence further leads to the supposition that also a considerably large number of single molecules may, through polyvalent atoms, combine to net-like, and if we like to say so, to sponge-like masses, in order thus to produce those molecular masses which resist diffusion and which according to **Graham**'s proposition are called *colloid*. The same hypothesis in the most natural manner leads to the view already advanced by **Pflüger**, that such an accumulation of molecules may go further yet, and may thus form the elements of the form of living organisms. Of these mass molecules we may perhaps suppose further that they, through the constant change of position of polyvalent atoms, show a constant change in the connected single molecules, so that the whole is in a sort of living state, particularly since through the same change of position adjacent molecules are drawn into the circle of combination and newly formed ones are expelled."

In a recent lecture the able physicist, **Professor A. E. Dolbear**, of Tufts College, Massachusetts, goes so far as to say "Once a vital force was believed to be resident in living things, and this force was supposed to control digestion, nutrition, growth and feeling, but all biologists have discarded the idea. I do not know of a single naturalist of any distinction in the world who does not think and say that all phenomena exhibited by plants and animals are due to physical and chemical causes."

In this opinion I believe **Professor Dolbear** has gone further than the facts will warrant for no one will deny to **Lord Kelvin** and **Baron Liebig** prominent positions among the ablest men of science, the one in physics and the other in chemistry, and I have been able to find nothing in the writings of either that modifies the expression of belief on these matters which is credited to each of them. **Lord Kelvin** in a recent paper on the dissipation of energy says: "The influence of animal or vegetable life on matter is infinitely beyond the range of all scientific inquiry hitherto entered on. Its power of directing the motions of moving particles in the demonstrated daily miracle of our human freewill and in the growth of generation after generation of plants from a single seed is infinitely different from any possible result of the fortuitous concourse of atoms." In a footnote in the same article he says: "About twenty-five years ago I asked **Liebig** if he believed that a leaf or flower could be formed or could grow by chemical forces. He answered "I would more readily believe that a book on chemistry or on botany could grow out of dead matter by chemical processes."

In the midst of conflicting opinion of authorities so eminent on a subject so important one cannot but commend the judicious and conservative statement of **Howell** in his introduction to the "American Textbook of Physiology," when he says: "Many important manifestations of life cannot be explained by reference to any of the known facts or laws of physics and chemistry, and in some cases these phenomena are seemingly removed from the field of experimental investigations. As long as there is this residuum of mystery connected with any of the processes of life, it is but natural that there should be two points of view. Most physiologists believe that as our knowledge and skill increase these mysteries will be explained, or rather will be referred to the same great final mysteries of the action of matter and energy under definite laws, under which we now classify the phenomena of lifeless matter. Others, however, find the difficulties too great—they perceive that the laws of physics and chemistry are not completely adequate at present to explain all the phenomena of life and assume that they never will be. They suppose that there is something in activity in living matter which is not present in dead matter, and which for want of a better term may be designated as vital force or vital energy. However this may be it seems evident that a doctrine of this kind stifles inquiry. Nothing is more certain than the fact that the great advances made in physiology during the last four decades are mainly owing to the abandonment of this idea of an unknown vital force and the determination on the part of experimenters to push mechanical explanations to their farthest limit. There is no reason today to suppose that we have exhausted the results to be obtained by the application of the method of physics and chemistry to the study of living things, and as a matter of fact the great bulk of physiological research is proceeding along these lines."

But perhaps I have cited enough authorities to give you a conception of what has been expected of chemistry and physics in revealing to us the mysteries of vitality. It is now perhaps proper for us to inquire what progress has been made by the biologist, the physicist and chemist in discovering the secrets of life, after forty or fifty years of zealous activity sustained by such confident expectation as you have heard expressed by some of them.

As has been truly said the work has been fruitful along all these various paths.

Physiology has gained much positive information as a result of this conception. Physiological movements have been proved in many instances to be, in a great measure, but the operation of chemical and physical forces acting in new fields and with the aid of novel mechanism. The transformation and correlation of energy has been shown to include much of what has hitherto passed under the name of physiological energy, as distinct from energy in other forms. The mechanism of the circulation, the nature of muscular contraction, the modes of animal movements and locomotion have yielded many of their secrets, and most notable progress has been made in determining the relative importance of the various portions of the nervous system and of the functions alloted to each.

Chemistry has succeeded by synthetical methods in the laboratory in building at least one hundred and eighty compounds, which are found in nature as the product of vital action. It is true that certain of these are not, even as natural products, wholly dependent upon vital action for their origin, and again it is true that what, with the aid of vital action, nature seems to accomplish simply and with the greatest ease the chemist has been able to bring about only through the expenditure of enormous energy in the form of pressure, heat or electricity, and at great expense as compared with nature's economical methods. Yet this is perhaps to be expected. It is not to be presumed that in man's first attempt to manufacture a new article the simplest or most efficient method would be devised. Nature has had the advantage of untold ages of experimentation, and while we have no evidence that the first products of her beakers or her crucibles were not as perfect as her later ones, we know that man's methods improve by trial and invention, and that both greater simplicity and economy attend the further expenditure of his thought upon them. So that he is able gradually to approximate the ease and simplicity with which nature does her work.

The biologist has made great progress in determining the conditions under which life properties are manifested; he has shown in some instances the least particle of living matter that can exhibit certain of these properties, and this he has termed—"the unit of life," and he has clearly written the life history of innumerable forms of living organisms and disclosed the more intimate structure of living things. The physicist has sought to emulate movements characteristic of living forms by skillfully devised mixtures and combinations of inorganic substances and he has certainly disclosed some remarkable and suggestive facts as to the capacities of such lifeless mixtures (as in "BUTSCHLI's Investigations on Microscopic Foams and on Protoplasm," London 1894) for developing currents and movements simulating those observed in certain of the lower forms of life. He has shown that into living beings energy in the form of electricity, heat and life disappears as such but that equivalents for the loss are obtained in chemical action or some other form of motion.

The progress made in storing up knowledge as to the material substance in which life manifestions take place has indeed been very commendable, but after all this indefatigable research we are apparently no nearer the discovery of the mystery of life than when the quest began. It is just as true now as it was fifty years ago when this new departure in search of the origin of vitality began so vigorously along so many paths, that, as far as we can show to the contrary, the vital manifestations in matter are absolutely dependent for their origin upon preexisting life. In 1874 Professor Tyndall in his address before the British Association for the Advancement of Science at the Belfast meeting, after strongly reiterating his belief in the vital capacities of inorganic material in obedience to its chemical and physical properties alone, yet admitted, as he would be compelled to do at this later day, that he could furnish no demonstrable proof in support of that belief. He at that time stated as the foundation for his belief that he drew the line from the highest organisms through lower ones down to the lowest and that it was the *prolongation of this line by the intellect beyond the range of the senses* that led him to the conclusion which Bruno, the Italian philosopher, so boldly enunciated to the effect that—"Matter is not that mere empty capacity which philosophers have pictured her to be, but the universal mother who brings forth all things as the fruit of her own womb."

It was in no sense a scientific demonstration, therefore, but a metaphysical conception growing out of his belief in the evolutionary order of development, which led Professor Tyndall to such a positive conviction that vitality is a product of matter and chemical and physical energy. And we are today, in spite of all that has been done, as far from a scientific demonstration of the spontaneous generation of life as he was then. The sure refuge of the vitalist is still, as it always has been, based on the fact that the scientific worker is impotent "to evolve life artificially out of any combination of physical and chemical forces and that such transformation is never witnessed save under the conditions of vitality" (Maudsley).

The overconfidence with which some entered upon the search after the hidden processes of vitality, armed with microscope and crucible, has given place to more humble expressions, when, after years of arduous effort, they return empty handed.

"The molecule," says one eminent biologist," is no doubt universal and very mighty, only not perhaps almighty." And again he is heard to say "Some place the secret life in the cell, others in small units; but no one so far as I know, has looked upon the unit as anything more than the seat of the mystery." And yet with true knightly honor he maintains the justice of his methods where he delares that—"There is no warrant for the assertion that life is something different from, and independent of matter and energy," while on the other hand there is no warrant in decomposition for identifying dead mechanism with living mechanism" (C. O. Whitman).

We would also direct the attention of those who are still lacking a proper humillity in the presence of the clouds and darkness that still surround the birth of vital phenomena, to the words of the author of the Grammar of Science who says, in commenting upon the views expressed by some as to the role of molecular physics in solving the life problem, "The structure of organic corpuscles can to a great extent be described in terms of physical corpuscles. But whether the laws of this motion can be deduced from the laws of the motion of physical corpuscles remains at present, and may long remain, an unsolved problem. If the one set of laws could be deduced from the other, it would greatly simplify scientific description but it would not lessen the mystery of life. Those who project their conceptions into the phenomenal sphere would still be puzzled to know *why* corpuscles dance in each others presence, and the mystery would be no less or no greater because a dance of organic corpuscles is at bottom a dance of inorganic atoms."

Professor Raphael Meldola, president of the British Association for th Advancement of Science, at the Ipswich meeting in 1895, says in his presidential address: "The view that requires pushing forward into a more prominen position than it has hitherto occupied is that all the chemical transformation in the organism—at any rate all the primary changes—are made possible onl by the antecedent combination of the substances concerned with living protoplasmic materials. The carbon dioxide, water, et cetera, which the plants absor must have formed a compound or compounds with the protoplasmic material o the chloroplasts before starch or sugar or cellulose can be prepared. There i on this view, no such process as the direct combination of dead molecules to build up a complex substance, *everything must pass through the vital mill.* The chemical equations (of protoplasm) given in physiological works are purely chemical; the physiologists have, I am afraid, credited the chemists with too much knowledge. It would appear as though their intimate familiarity with vital processes had led them to undervalue the importance of their prime agent. In giving expression to these thoughts, I cannot but feel that I am treating you to the strange spectacle of a chemist pleading with the physiologist for a little more vitality in the chemical functions of living organisms."

And yet PROFESSOR MELDOLA is not a vitalist, as some might suppose from his emphasizing the view that living protoplasm is the essential factor needed to produce the highly synthesized organic substances which he and others have sought in vain to construct in the laboratory, for he takes the precaution to state expressly that the protoplasmic theory of organic synthesis, as he chooses to name it, in no way necessitates the assumption of a special "vital force." His only contention seems to be that the solution of the mystery of vitality is still far off, for in order to obtain products such as vital action furnishes, vital action itself is indispensable and must be the first produced.

And so it appears that one cycle of research has taken place after truly scientific methods, covering half a century, or thereabout, and chemistry, physics, biology and physiology have sent in their report that vitality is still as much of a mystery as it ever was; that in order to get a product such as that produced by vital action we must start with living protoplasm. The citadel of the vitalist remains unshaken though some of his unimportant outworks have been captured by the assailants.

But though somewhat cast down and less confident of the immediate attainment of their object, there is apparently no very noticeable wavering in the belief on the part of those who adhere to the mechanical theory of the origin of vitality that eventually (in the words of PROFESSOR BARKER) "A mass constitutionally identical with protoplasmic albumin" will be formed in the laboratory and that when this is accomplished "there is every reason to expect that it will exhibit all the phenomena which characterize its life."

There are some like PROFESSOR GOWERS who, while they are in entire sympathy with the attempts to solve the great mystery of life, yet entertain no hope that success will crown such efforts and declare as their belief that "not only is the relation of energy to vitality entirely hidden from us now, but no promise is given that the future has it in store for us. The hand that holds the secret is tightly closed."

And so the matter at present stands.

The atom and molecule as we know them, ruled and directed by the energies which we can call forth, at will, in the laboratory, have not yet, within the field of our observation, exhibited the power to bridge the chasm that lies between the dominions of animate and inanimate things. If it should ultimately turn out that the expectations of the believers in the mechanical origin of life are realized then it will be seen that either some of us have not entertained a sufficiently broad conception of the inherent capacities of the atom and molecule or that there is an everacting energy outside of these material things; waiting only for the fitting opportunity to manifest itself through them and using them for the development of definite plans and purposes.

KARL PEARSON has truly said "That the moment we accept without reservation the theory that all life has evolved from some simple organism, then we are bound to recognize that consciousness has gradually become part of life, as forms of life became more and more complex." And so, likewise, when we accept the theory that this simple organism has itself been brought into existence by a fortuitous concourse of atoms, molecules and energies without the agency of any special vital directing or formative power other than already resides potentially in the atom, we must then, in our thought, of necessity clothe the atom with an original endowment which requires but the needed time and conditions to enable it in its associations to give expression to the properties not only of living things, but of the highest orders of living things, in other words, we must conceive of the atom possessing, in germ, consciousness, intellect, emotion, reason, judgment and will.

I do not know that we need be startled nor view with dread and apprehension such a conception as this. To my mind it is not a forbidding aspect of the universe which presents it in such a perfect unity that each part is fitly woven together throughout, without seam in the garment. I can see nothing but good that would result from the ennobling of matter in our estimation by recognizing it as the inexhaustible storehouse out from which emerge the issues of life. I confess that such a conception of the plan according to which all things have been made that are made appeals to me most forcibly as a most natural and beneficent one, and I do not believe it to be other than a groping of the thinking mind of man after the universal intelligence, which his study of nature reveals to him, that has given birth to the idea that the advent of vitality and of consciousness was no afterthought, or delayed event, but were a part of the primordial plan and provided for "In the beginning."

It does not shake my confidence in the creative intelligence through whose agency the wonders of the visible universe have been thus evolved, but rather enlarges my conception of His power and omniscience and deepens the awe and reverence due Him as the author of a plan so grand in conception and simple in execution.

I unhesitatingly personify an Intelligence, and that an all powerful one, as standing behind the veil of natural things, for to me it is unthinkable that matter is self-endowed, and contains within itself both the architect and the substance out of which the universe is built up.

Then it appears to me it matters not, except as it reveals to us an earlier comprehension of the whole intent, whether the material atoms and molecules which operate in vital processes inherited their vital capacity from the beginning of their existence or have had it thrust upon them at a later date. The fact remains that different grades of capacity, a wider circle of relationship with its environment, marks each successive stage of vital manifestations. Because the microscope and the crucible have not revealed and may never reveal to the human eye, or other sense, any distinguishing features by which the protoplasm of one form of life may be separated from another, are we therefore forced to conclude that there is no such distinction? No one, perhaps, has ever entertained any such absurd notion in the face of all the evidence to the contrary, and yet one's habits of life and conduct oftentimes become hidebound, and in order the more clearly to see and study that on which we have chosen to fix our attention we voluntarily shut out all side light.

But when we raise our eyes and take a comprehensive view of the vital manifestations about us we see that the physical basis of life is not the same for all orders of living things. No two forms of vegetable or animal life are the same, unable as we may be to distinguish any difference in their protoplasm when we subject it to the scrutiny of the senses aided by the most ingenious instruments of man's devising.

We can unhesitatingly say, justified by the primal law that a variation in result must needs indicate a difference in cause, that the construction of the molecules which form the vital units of each separate order and species of animal life differs from the units of every other form that does not exhibit like vital characteristics.

All *protoplasm* is not the same *protoplasm* but there is one kind of *protoplasm* of men, another *protoplasm* of beasts, another of fishes and another of birds. This is a fact that we must recognize and take into consideration in all our practical dealings, no matter what our belief may be as to the origin of all these variations in a gradual transition or evolution of them throughout the ages from a primordial living stuff, which was once uniform in structure and in vital manifestations.

Even should it be permitted us eventually to produce by our experimentation something akin to this primordial vital protoplasm and so disclose the link, now hidden in the evolutionary plan, that joins the inorganic to the organic world, this would in no measure destroy the individuality of existing orders of beings or of any that ever have existed. Each stage of vital existence would be just as distinct as if it were a wholly new creation, which in reality it is, no matter how well we are able to trace its antecedents. A special environment accompanies each successive step in the vital evolution. Each particular form of life cannot exist apart from its special environment, and the environment suited to any one form is not adapted to the needs of any different form. Man cannot thrive under conditions best suited to the existence of any beast. A lesson of fundamental importance for us as physicians to learn and ever keep in mind is that the form of vitality which man possesses and which we are continually attempting to modify when it exhibits abnormal phases, is a vitality with endowments of a special order. Linked to the vital characteristics of lower forms of animal life by a protoplasmic continuity it may be, yet far transcending in its evolutionary stage any form of preexisting life. Possessing a capacity of responsiveness to influences originating in its environment and reacting upon that enviroment in an infinite multitude of ways, which no organic being known to us, other than man, has ever before exhibited. Thus man's life is of its own kind. Our conceptions of the physiology of man as well as our views of the accompanying pathology must be broad enough to take in all of the capacities which his vitality possesses, otherwise our therapeutics will fall short of meeting the need in dealing with the defects that fall within the field of our special function as physicians, that is, the prevention and cure of the diseases that afflict him.

Physiology has been defined as the science of life or vitality. Human physiology therefore is the science of human vitality.

We find this vitality in man manifesting itself in three orders of activity, physical, intellectual and moral.

In his physical nature the vitality that is in man shows its kinship to the vitality which resides in other forms of animal life, especially those nearest to him in the nature and the necessities of their environment. We find in this sphere of his existence that man reacts to physical and chemical influences in a manner similar to the reactions observed from like causes operating on other closely allied forms of animal life. You all know how much of our exact knowledge of man's physical nature we owe to observation and experiment on lower forms. So exclusively indeed has our attention in recent years been confined to this source of information for guidance in therapeutic measures that our conception of the causes of disease have correspondingly narrowed. Because we have seen the effect within the physical field we have been inclined therefore to limit our search for the cause to the boundaries of this field, when the fact may be, and oftentimes is, that the most potent factors in causing many diseases in man have their origin entirely outside his physical nature.

The protoplasm peculiar to man and in which his vitality resides is the theatre for the activity of his mental and moral energies as well as of the physical.

The condition of health, therefore, for man is that condition wherein all three parts of his nature are acting harmoniously and are properly adjusted to the environment suited to each. A deficiency in any one mars all. A condition of disease may be brought about as certainly, if not as immediately by defective mental and moral physiology, as by a defective excretion or assimilation due to purely physical causes.

We daily insist upon the dependence of a healthy mind upon a healthy body, but we fail to perceive, or at least to proclaim what is equally true, that a healthy body is quite as dependent upon a healthy mind and that both are far from the normal state of man's health if the moral nature remains dwarfed or has become diseased.

If we have assumed responsibility as guardians of man's vitality we must protect it from every hostile assault no matter what the direction of the approach. How is it possible to cure an outbreak of disease when the sources of infection are not dried up? The difficulties with which the sanitary authorities in India have to contend at the present time in their efforts to arrest the fearful ravages of the plague are not so much the virulence of the disease as such, or the want of suitable physical remedies for it, but the fanatical and determined opposition of the sick to the use of those remedies. The mind must be set right before the body can be cured. Starvation, marasmus, scurvy and exposure to unsanitary influences is destroying thousands daily on our neighboring island of Cuba, but the physical means that would readily restore many of these sufferers to a state of health cannot be applied to this end until the present state of the Spanish mind is changed.

We all believe that bacteria, either by direct action or by means of their products, are the immediate cause of a variety of forms of disease with which we are familiar, but it never has been entirely forgotten and is now becoming every day more and more evident that the most potent factor as well as the antecedent one which renders the hurtful bacterial action possible, is a lowered vitality in the tissues rendering them vulnerable to the bacterial influences.

Destroying the bacteria does not establish a state of health; which would be the case if we had, by destroying them, removed the sole or most potent cause of the disease. Rational therapeutics is beginning to discover that *immunity*, in other words, a state of invulnerability, a resisting power on the part of the vital action possessed by the organism, is the only safeguard against this class of diseases. If in seeking for the causes of the lowered vitality by which the tissues have become vulnerable, our path leads up to and beyond the boundaries of the physical nature of man into well beaten tracks emerging from the confines of his intellectual or moral nature, are we to halt at this boundary line, and with closed lips and bated breath keep silent as to the true origin of the disease and content ourselves with the hopeless task of counteracting its effects within the physical field. If we discover, as we so often do that defective methods applied to mental evolution, education falsely so-called, restrains and warps the vital activities and causes inefficiency, anxiety and discouragement, which depress the vitality in man as certainly as many physical agencies, are we to withhold from these causes their appropriate remedies? To what entent, for instance, is the physician interesting himself today in the amount and natural sequence of the studies required of pupils in our public schools? It would seem that the study of human biology, which is the physician's peculiar field, would fit him to speak with authority as to the sort of environment that should be created about a child at successive stages of its physical and mental evolution so as to secure the best results in stability and efficiency.

Again, if we discover that habits formed within the moral sphere of man's nature are the fruitful source of his deranged vitality; if intemperance, licentiousness and gluttony are crowding our clinics and filling our casebooks, are we to raise our eyes no higher than the purse of the victim of such practices when we reach the point where we must advise appropriate remedies? What remedies are appropriate in such cases except such as will root out the incipient causes of the impaired vitality? We might as well "attempt to dam the waters of the Nile with bulrushes" as to seek the effectual cure, with purely physical means, of diseases having their origin outside the physical sphere of man's nature. Have we not proved this to our satisfaction over and over again If we are still in doubt, is there any necessity for such doubt remaining? A not the facts obtainable and our logical faculties capable of handling them? appears to many in these days that the medical profession are shrinking from grave responsibility and yet one that is peculiarly their own, one which cann be shifted to other shoulders, when they fail to settle beyond all question, a they may and as they alone can, whether or not certain social customs, indulgences and practices are not only fruitful causes, but the main causes of much of the defective vitality which afflicts humanity.

The remedies that are suited to combat the causes of disease that have their origin in the physical nature of man are impotent to effect a cure when the disease has its origin in his mental or moral nature. You are all aware, from many sad cases known to you, how disastrous is the result when this attempt is made. Alcohol, morphine and cocaine are crowding our asylums, almshouses and cemeteries with scores of victims daily, who have sought by these purely physical agencies to restore vitality to its accustomed normal action. Each sphere of man's vitality has its appropriate remedies. A healthy action in each can only be maintained by its appropriate environment, and unless we are willing to declare that our function as physicians confines us solely to the physical sphere of man's vitality we must study the disorders and so the appropriate therapeutics of his mental and moral nature as well. The therapeutics of the future is to be unquestionably a therapeutics of prevention. Within the physical field we already recognize this as the line of progress. Disease is being eradicated by preventing the causes thereof, by removing the conditions necessary for its development. Scurvy, small-pox and cholera are notable examples of diseases controlled by preventive measures. We have so modified the environment of the vital activities as to exclude the conditions under which alone these diseases can originate.

But when those causes, when those conditions which give rise to impaired vitality in man, originate outside the environment of his physical surroundings the physician, as guardian of the integrity of that vitality, has for his share of responsibility, to determine with certainty and to declare, with the authority which he alone can, what are the true sources of the evil. It may not be his special province to apply the preventive measures needed, but upon him rests the responsibility of pointing out how vitality is affected by the mental and moral causes operating to produce the effects with which he has to do.

In acting as the guardians of health our appeals to the lawmaker for preventive measures are becoming more and more frequent. A more comprehensive view of our relations, as physicians, to man's vitality, which is entrusted to our keeping, will require that, before many days, we form a partnership with the educator and the guardians of the moral nature of man as well as the lawmaker, in the application of a more comprehensive and rational system of therapeutics for the maintenance and preservation of a higher order of life.

THE FOUR TONSILS: THINGS EXPERIENCE HAS TAUGHT ME.*

By W. F. STRANGWAYS, M. D., Flint, Michigan.

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Experience has taught me that sometimes the diathesis depends on the local trouble rather than the local trouble on the diathesis. The medical literature of recent years teaches that the gouty, rheumatic and lithemic diathesis are the important causes of nose and throat troubles. Experience teaches me that diseases of the upper air passages are important causes of systemic conditions, which I cannot diagnose from the gouty, rheumatic or lithemic diathesis. Many of my patients ask me if the catarrhal condition is not due to bad blood, and fancy they will not be cured unless they take blood medicine. This idea is fostered by quacks and patent medicine venders. As a rule popular ideas, which exist through years, contain some truth, and in this case my experience teaches me that some of our most stubborn diseases of the nose and throat depend on certain conditions of the blood. On the other hand there is a popular belief that certain diseases of the nose and throat have a very evil influence on the general system, which is more or less overlooked by our writers. I have seen many general conditions wherein the most skillful internal treatment, aided by all that hygiene could do, gave but little or temporary relief, until the nose and throat troubles were relieved. I believe certain conditions of the system must be blamed for some diseases of the nose and throat. I also believe that at times we have a vicious circle wherein the one perpetuates the other. At the present time I think we are running to the extreme where we do not give due weight to the systemic influences of local troubles. To demonstrate some of my ideas I shall give but three selected clinical histories:

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*Read before the Michigan State Medical Society at the Detroit meeting.

Case I.—A girl aged seven years, had a history of what her parents called "bilious attacks" occurring every six or eight weeks. They were characterized by headache, sore throat, vomiting, malaise fever and prostration. Between the attacks she was troubled with what her parents called "growing pains." Her physician stated that sodium salicylate gave her more relief than any other drug. On January 17, 1893, I removed her tonsils and adenoids, and since then she has had neither the so-called bilious attacks nor growing pains.

Case II.—A girl aged thirteen years, was brought to my office December 4, 1894, to have her tonsils and adenoids removed. Anemic and delicate in appearance. Her history indicated recurring attacks of tonsillitis, also the rheumatic diathesis; since exposures to cold caused soreness, stiffness and pains in various parts of the body. Her physician had given her hematics and antirheumatics with but little benefit. Her tonsils and adenoids were removed with the happiest results. Her anemia gave way to ruddy health, and the pains, soreness and stiffness caused by exposure to cold have not returned, save to a very slight degree during the first few weeks after the operation.

Case III.—A girl aged ten years, consulted me January 10, 1894. She complained of a fickle appetite and inability to engage in active exercises, as running, as they caused a pain about the heart. She was easily tired and had rheumatic symptoms, such as pains and soreness, especially in the legs. Her breath was foul, and there was a disagreeable odor emanating from her perspiration, which the parents claimed was similar to what they had noticed in a case of inflammatory rheumatism. In this case as in the others internal medication had been faithfully tried with but little influence upon what the parents called "rheumatism of the heart and limbs," nor did it lessen the foul odor from her breath and perspiration. I removed tonsils and adenoids. Two weeks afterward the parents reported her weight had increased rapidly, while her general appearance was changed to that of vigorous health, and the foul odor from the breath and perspiration had disappeared within the week after I operated.

A careful consideration of such cases forces me to decide that sometimes the local lesions cause the systemic disorders or diatheses, notwithstanding the trend of current literature. Until we have determined the physiological functions of the glandular structures in the oropharynx and nasopharynx we cannot tell what influences the disturbance and destruction of these functions may have; but we do know that the enlargement of them creates crypts and crevices where various materials may lodge and decompose. The resultant deleterious materials are absorbed, causing autoinfection. In this way I explain the foul odor of breath and perspiration noticed in Case III. If this explanation is correct, we may reasonably conclude that glandular structures, capable of tainting the breath and perspiration are capable of producing such diatheses as we at times think cause the local lesions. Let us consider and be guarded lest we transpose cause and effect.

Another thing experience has taught me, is never to put my cold snare on the faucial or lingual tonsils in the ordinary manner. On several occasions I have found it impossible to cut through the fibrous structures, though I have used force enough to break my instruments as well as the snare made of number five piano wire. In most of our textbooks the cold wire snare is mentioned as one of the accepted instruments for removing these tonsils. I was foolish enough to accept the suggestion, but I have had my experience, and my patients do not wish it repeated.

I have to thank Doctor DeVilbis, of Toledo, for suggesting to me what I should have thought of, as it is so simple and patent. That is to attach one end of the wire to a stationary or fixed part of the instrument and the other end in the ordinary manner. By doing this we double the cutting force without increasing the strain on the instrument. I have found large lingual tonsils much more difficult to cut through than the faucial.

Another thing experience has taught me is to place obstructive lesions of the upper air passages among the causes of enuresis. My attention was called to this by the reports of parents in four cases wherein I had removed tonsils and adenoids. They stated that the enuresis disappeared immediately after I operated. Various writers have discussed the relations between the genito-urinary organs and the nares, but I have been unable to discover anyone who has placed obstructive lesions of the upper air passages among either predisposing or exciting causes of enuresis. A case wherein removal of tonsils and adenoids did not make a complete cure, but greatly improved the condition has been so instructive to me that I will relate it in place of others:

F., a boy aged six years, strong and healthy. His foreskin was normal. Up to two months ago enuresis occurred every three or four hours when he was free from colds, but while suffering colds it occurred every hour or two. During the daytime he was forced to urinate more frequently than normal. He had been unsuccessfully treated by the various remedies usually prescribed for enuresis. His inferior turbinates were turgescent, his faucial tonsils moderately enlarged, and the nasopharynx was nearly filled with adenoids. If free from a cold he could breathe through the nares while awake and not exercising. His parents had noticed that his enuresis seemed to bear a close relation to the interference with inspiration. Two months ago I removed his tonsils and adenoids, but did not treat his turgescent turbinates. Enuresis occurred the night after I operated and then disappeared for three weeks, when he caught cold and it returned to again disappear until he contracted varicella. Since then he has no enuresis unless allowed to sleep over six hours.

I shall not give any lengthy explanation of how obstructive lesions of the upper air passages could cause enuresis. We all know they increase respiratory efforts and lessen the amount of air inspired, exhausting nerve force and interfering with nerve repair, and as a result increase the sensitiveness of the reflex centers. Likewise by altering the constituents of the urine, it is possible they make it more irritating.

LOCAL ANESTHESIA.

By W. M. DONALD, M. D., Detroit, Michigan.

LECTURER ON PRACTICE OF MEDICINE IN THE DETROIT COLLEGE OF MEDICINE.

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LOCAL anesthesia is one of the essentials of nineteenth century practice. So accustomed is the great public, from which we draw our patronage, to the use of anesthesia, that it refuses to bear pain in any form or for any cause. Every practitioner is familiar with the cases which will not allow the removal of a small wart, or the lancing of an insignificant boil without some form of anesthetic. We may lament the waning moral courage, and the "stamina decadent" of our race, but as we do not occupy the position of national or public censors, it is our part, so long as no physical harm ensues, to treat these people as they demand.

For major operations, or for operations demanding time, general anesthesia from chloroform or ether is alone to be thought of. Likewise, also, when the deeper tissues are involved, or when the cavities of the body are to be invaded, general anesthesia is the only form to be considered. In children, too, and nervous women, when the sight of the blood or of the knife would hurt as much as the operation itself, profound general narcosis must be produced.

But with the horrible death roll charged up against the two chief general anesthetics—chloroform and ether—it behooves us as conservers of the public health and public life to reject them whenever possible. Now, the one place above all others where they should be rejected is in cases of surgery of minor importance, more especially when no competent physician-assistant is at hand. The removal of small cutaneous or subcutaneous growths, such as sebaceous cysts, nevi or fatty tumors; the operations of circumcision and of paracentesis; the suturing of incised wounds and minor orificial surgery, et cetera, may be exampled as coming within the above category. In such cases, by the use of a local anesthetic in preference to a general, we avoid not only the dangers of the latter but also the unpleasant features inseparably associated with the latter. We avoid, moreover, the necessity of calling for the assistance of an anesthetizer when time may be valuable, or when the patient is quite unable to pay a suitable fee to one physician, much less to two. In the stress of modern life and nineteenth century conditions this last consideration assumes no mean importance.

It being granted, then, that local anesthesia is to be preferred when possible, let us proceed to a consideration of the means of applying it. Reduced to their ultimate conclusion all methods resolve themselves into two, namely, that of injection by cocaine or by Schleich's formula, and that of freezing by evaporating mixtures. The method of freezing by mixtures of salt and snow is too antiquated to be more than a matter of therapeutic curiosity.

Now, cocaine may be classed as one of the few really useful drugs introduced during the past decade; in fact it may be denominated as one of the invaluable drugs. But even cocaine has its limitations in the production of local anesthesia. Applied to the unbroken skin it has practically no anesthetic power, while injected hypodermically it may be as painful almost as the operation which it was supposed to render painless. To the medical mind the introduction of a hypodermic needle is a trifling affair, but the lay mind is apt to regard it with much distrust and to complain bitterly of the pain induced by it. Schleich's method is open to the same objections though it is of undoubted value in well selected cases, being of special value and to be preferred to cocaine on account of its nontoxicity.

Numerous evaporating fluids and mixtures have been presented to the profession in the past quarter century and have been highly extolled only to fall by the wayside when put to a thorough test. The latest claimant for public favor is ethyl chloride. This has now been before the profession for several years, and yet but few know of it by actual test. It is a colorless liquid with a boiling point at 54° Fahrenheit, and can in consequence be vaporized by the heat of the hand or body. The form in which the manufacturer puts it up for sale (namely in a glass cylinder with fine nozzle) is so well known through advertisements in the medical press, that it is quite unnecessary to speak of it here. The method of using it is to hold the cylinder in the hand, open the screw cap over the nozzle, and allow a fine jet of the liquid, vaporized by the heat of the hand, to play upon the part which it is desired to anesthetize. Evaporation proceeding with great rapidity from the surface treated, it is but a matter of at most one minute to produce local refrigeration with complete loss of dermal sensation. If it is desired to produce greater or deeper insensibility the spray must be used for a longer period, but as no bad results are to be apprehended, the time of use is a matter of indifference, so that anesthesia be produced.

The complete refrigeration produced might lead one to fear a subsequen gangrenous process in debilitated or aged patients in whom the recuperative powers of the tissues are poor, but an experience of several years with it in a variety of patients and diseases has demonstrated its harmlessness. Its painlessness on administration is another argument in its favor, no case having come under my observation wherein anything more than a slight burning sensation was complained of.

The variety of uses to which a preparation of this kind can be put wil readily suggest itself to any practitioner. In minor surgery I have used i chiefly in incising furuncles or felons, in removing warts or small nevi, and in opening abscesses or buboes. I do not propose to cite a series of cases in accordance with the stereotyped method of medical literature, but content myself by simply stating that for minor surgery ethyl chloride is the anesthetic to which my mind first reverts when the necessity of local anesthesia is apparent.

Where it is not expedient that this should be used owing to the character of the case or the age of the patient, one must decide between SCHLEICH's method and cocaine. The nontoxicity of the former gives it a decided advantage, although with our added knowledge of dosage during the past few years the reports of cocaine poisoning have been reduced to a minimum. When it is possible to shut off the return circulation from a part, as with an elastic band around a finger or the penis, the danger to be apprehended from even large doses of cocaine is practically *nil.*

In medical practice as distinguished from surgical, ethyl chloride is a highly efficient therapeutic agent. During the past few months I have had occasion to use it with good results in the following: A case of obstinate intercostal neuralgia; an equally obstinate case of supraorbital neuralgia; a case of syphilitic cirrhosis of the liver with ascites, demanding frequent tapping of the abdominal cavity; and another of muscular pain in the abdomen simulating appendicitis. In the two first cases the relief was magical, and better still, was, after two seances on succeeding days, permanent. In one of them large doses of morphia had failed to give more than temporary relief, and in the other, every antineuralgic drug of any value except morphia had been pushed to its limit. In the last case mentioned (that of muscular pain in the abdomen) the anesthetic was used as a diagnostic agent, refrigeration of the external tissues demonstrating that the pain was confined to the tissues of the abdominal wall and did not arise from the underlying appendix or bowel. Several patients with sciatica were treated by this method, but the results were not good. Some obstinate lumbar myalgias were also treated, with only temporary relief, the inference being that lesions or diseases of the deeper tissues are not favorably affected by this form of medication.

From the foregoing we may, I think, in all fairness, conclude—

(1) That in surgical practice *local* anesthesia is to be preferred whenever practicable.

(2) That when local anesthesia is decided upon, ethyl chloride should, on account of its ease of application, and its safety, be if possible, selected.

(3) That in medical practice local refrigeration by ethyl chloride is a therapeutic procedure of great value in well selected cases.

970 JEFFERSON AVENUE.

CERVICAL ADENITIS IN CHILDHOOD.*

By GEORGE W. MORAN, B. S., M. D., DETROIT, MICHIGAN.

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OWING to the anatomical arrangement of the cervical lymphatics, the cervical lymphatic glands are frequently exposed to infection by germs or their poisons, which have been harbored on diseased areas of the nose, throat and mouth.

Diseases of these glands may be divided into acute and chronic cervical adenitis.

Acute cervical adenitis is a local disease, resulting, almost invariably, from secondary infection, and terminating either in suppuration or resolution.

Etiology.—Aside from the usually mild acute adenitis accompanying the various infectious diseases of childhood, the most frequent causes are traceable to catarrh of the nose and throat, adenoid tissue of the naso-pharynx, decayed teeth, unhealthy tonsils, stomatitis, and middle-ear trouble.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

Symptoms.—The glands most commonly involved are those belonging to the submaxillary, upper deep cervical, parotid, superficial cervical, sublingual, retropharyngeal, and postcervical sets. Usually one, and rarely more than two glands undergo acute inflammation at the same time. The gland rapidly enlarges, and is attended with more or less pain, depending upon its location, and the amount of periglandular cellulitis.

Diagnosis.—The diagnosis should be easy in all cases, except, possibly, when the submaxillary or the retropharnygeal glands are involved. In such cases, mumps and larnygeal stenosis, spinal caries, or edema may render it difficult for a short time; but careful examination ought, in most cases, to make the diagnosis positive. The prognosis is always favorable, unless in some severe cases of acute adenitis of the retropharyngeal glands ending in suppuration.

Treatment.—The treatment of acute cervical adenitis divides itself into: (1) Prophylactic—Care should be taken to keep a clean membrane in all catarrhal diseases of the nose and throat. Unhealthy conditions of the vault should be corrected, unusually large tonsils should be removed, and *last*, but far from *least*, the teeth should be attended to. In some seventy-eight cases of acute adenitis, about sixty per cent. were directly traceable to bad teeth and suppurating gums, and twenty per cent. to enlarged tonsils and disease of the nose and throat; hence, the necessity for removal, or attempt at proper disinfection of decayed teeth and inflamed gums. (2) Medicinal—When the acute inflammatory stage develops, hot applications should be made for the relief of pain. Cold is also recommended, but it is rare to find a child who will tolerate its constant application. To prevent the formation of pus, very little can be done. The early local application of the liniment or ointment of belladonna combined with opium also proves gracious in the relief of pain, and undoubtedly does, in many cases, check the process from going on to suppuration. When pus is present, some authorities advocate waiting until pointing takes place, which, it seems to me, is applicable only in very superficial glands, and is even then, bad practice. As a rule, pus is present in greater or lesser quantity for some time before it is possible to detect it, particularly when cellulitis extends for some distance around the inflamed node; and to wait after you are sure of its presence, thus allowing it time to burrow, is dangerous. After evacuation of pus, curretting may be necessary if healing does not progress rapidly. When suppuration does not take place, but the gland remains large and tender, the local application of potassium iodide ointment has acted better for me than other ointments, or the iodide internally. In all cases, the exciting causes should be sought and corrected as soon as possible.

Chronic ceverical adenitis may be divided into simple, tuberculous and syphilitic.

Simple chronic adenitis is usually dependent upon a lymphatic diathesis, thus rendering the glands susceptible to a limited hyperplasia through mild infection from decayed teeth, enlarged tonsils, diseases of the naso-pharyngeal membranes and certain chonic skin affections. Contrary to the general belief, it predisposes to, much oftener than it results from, successive acute attacks. In this class of cases, the glands on both sides, and those of the postcervical, are involved, and generally the corresponding sets are affected. The swelling is not great; the pain varies, being sometimes considerable, but oftener not noticeable.

Diagnosis.—To differentiate this form of ceverical adenitis from the tuberculous, the only one with which it is likely to be confounded, the child's age, history of case, and family history are to be considered. Simple chronic adenitis is rare after the age of four, while tuberculous adenitis occurs between the ages of four and fifteen, and later, but rarely earlier. Furthermore, the suppuration and caseation common in tuberculous adenitis never occur in simple chronic adenitis. The enlargement in the latter is more rapid, and the glands are not adherent, even if of long standing. From syphilitic adenitis the diagnosis should be easy, owing to the rarity of this affection in childhood; and particularly so before the age of four. Again, the history, the teeth, past and present condition of the nose and eyes in syphilitic children, and in doubtful cases the antisyphlitic treatment, readily enable us to positively diagnose the case.

Treatment.—In the treatment of simple chronic adenitis, most benefit is derived from tonic treatment after the various sources of infection have been removed. The local application of potassium iodide ointment hastens the absorption and the assumption to normal size.

In tuberculous adenitis the principal etiological factors are exactly those which have been enumerated as foremost in the production of simple chronic adenitis, added to an inherited predisposition, or lowered vitality from poor nourishment, bad environment, or previous illness; which put the gland into a favorable condition for the reception and nourishment of the tubercle baçillus. I believe that I am safe in saying that tuberculous adenitis is very rarely a *primary* disease, and that an inherited predisposition and lowered vitality alone are not usually sufficient to render the gland a suitable habitat for the growth of the germ.

Symptoms.—The upper deep cervical glands are generally the first to be infected; and during the first few weeks their appearance corresponds closely with that seen in simple chronic adenitis. The course of the disease varies—some early undergoing softening and caseation, with or without the formation of periglandular abscesses; while others progress more slowly, and in which there is a greater or lesser formation of fibrous tissue, producing a thick, hard capsule. These thickened capsules may in time contain caseated matter; but their association with periglandular abscesses is rare, compared with the other type. The more rapid the inflammatory process the greater the tendency to softening and caseation and adhesion to surrounding structures. When softening and caseation once takes place we should not look for resolution until the contents have been evacuated. The pain is not what one would expect from the amount of swelling, many times being noticeable only upon direct pressure; except when complicated by periglandular abscess, when all the symptoms of acute suppurative adenitis are present. As the duration of the disease increases the number of diseased glands multiplies, new sets becoming involved from neighboring diseased glands as well as from the original source of infection. The effect of cervical tuberculous adenitis upon the general health in the average case is not marked; in those cases, however, which are accompanied by successive caseation and periglandular abscesses, the general health may be seriously impaired.

Diagnosis.—In the diagnosis very little trouble will arise, except in the earlier stages. Here, however, the age, the tendency to caseation and softening, adhesions, the history of the case and family history, make it clear. From syphilitic adenitis the history, teeth, and antisyphilitic treatment, when in doubt, are sufficient to separate them. Other possible conditions with which it may be confounded are so rare that they need not be mentioned here.

Prognosis.—This is usually favorable as far as the life of the patient is concerned, statistics showing that about five per cent. only of all cases terminate in general tuberculosis. As to the ultimate appearance of the neck in bad cases, one is never safe in stating.

Treatment.—Much can be accomplished in the way of prevention by seeking and correcting the common causes of simple chronic adenitis. In the treatment of tuberculous cervical adenitis, our attention is to be directed not only to the local management of the diseased glands, but to the patient's surroundings, nourishment, tonic medication, and to the correction of diseased conditions of the nose and throat. Great benefit is derived from sojourns in the country during the summer months; high, dry altitudes and the seashore are highly recommended, but unfortunately are beyond the reach of most of these patients. In the treatment of the diseased glands little or nothing can be done locally, except protecting them from exposure in bad weather. In all cases wherein caseation and softening and periglandular abscesses occur, incision should be made at the earliest possible moment, for the following reasons: (1) Waiting allows the broken-down gland or glands to be the source of infection for neighboring healthy glands and lymph channels, increased adhesions, and the formation of periglandular abscesses. (2) Waiting after the formation of periglandular abscesses permits of extensive and dangerous burrowing of pus, and its constitutional effects from absorption. (3) It allows time for the greater or lesser destruction of subcutaneous tissues, and marked impairment of nutrition of the overlying skin, so that when an opening *is* made there is more or less sloughing, followed by indolent ulceration, ultimately ending in a disfiguring scar. Early incision and good drainage, therefore, are of the greatest importance in the prevention of further extension and destruction of tissue, and the unsightly scars so often seen. The excision of tuberculous glands is to be practiced only when the gland is superficial, and still remains movable. With the cautery puncture I have had no experience. With the nuclein injection treatment my experience is limited to five cases, in one of which there was apparently some improvement; in the other four none. The amount injected ranged from ten to thirty minims daily or every other day for thirty, forty and sixty-five days.

Syphilitic cervical adenitis is a comparatively rare affection, and is almost always accompanied by glandular enlargement throughout the entire system. When met with it is usually through the patient being brought for treatment of other more important syphilitic manifestations.

The *diagnosis* of syphilitic cervical adenitis is rendered easy by the formation of the teeth, history or present disease of the nose, eyes or bones, or the antisyphilitic treatment.

The *surgical* management, when indicated, is the same as that in other forms of chronic cervical adenitis.

The *therapeutical* treatment consists of the administration of antisyphilitic remedies and tonics.

OFFICE TREATMENT OF GYNECIC CASES.*

By WILLIAM F. METCALF, M. D., DETROIT, MICHIGAN.

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FOR our consideration this evening I have selected a subject of direct interest to nearly every member of this society. I have endeavored to treat it in a general way opening various avenues of thought to be followed in the subsequent discussion.

I will first endeavor to define a gynecic case by answering the question—Does this particular girl or woman need examination and treatment of the pelvic organs? The answer to this would vary somewhat according to individual experience, but the fact remains the same and is at times difficult to determine. The symptoms may point to irritation of the cerebro-spinal nerve centres—backache, pain in the top or back of the head or down the thighs or in the lower abdomen, bladder, vulva or rectum, hemicrania, pruritus, chorea or mental aberration; or on the other hand to irritation of the sympathetic centres—dyspepsia, constipation, tympanitis, cold extremities, abnormal discharges and malnutrition. When any or all of these symptoms present and the examination of other and more easily accessible parts and of the mental and physical environment does not make clear the etiology an examination of the pelvic organs is imperative.

Dysmenorrhea is borne as a matter of course by many young women, fertile etiologic factors being close confinement to school, excessive mental effort, improper food, impure air, insufficient rest, tight lacing and irritational literature. If when these conditions are corrected, congestion of the portal circula-

* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

tion relieved, the condition of the blood improved as much as may be, relief does not come, examination of the pelvic organs should be made, preferably at the patient's home after the administration of an anesthetic, when, if necessary, the passages may be dilated, the clitoris freed, the uterus curretted and rendered aseptic without any embarrassment to the patient. I do not wish you to infer from this that I think the local treatment in the office of young girls harmful if the girl be intelligent, and the treatments properly conducted. On the contrary, I think that every act which tends to remove the fig-leaf conducive to morality; that one part of the body is no more sacred than any other part, and that the removal of local irritations will not induce immoral suggestions but will tend to keep the mind pure and free to dominate the body. I wish thus to assert my position upon this question, in the interests of morality and the health and happiness of suffering girlhood.

The dilatation may be accomplished by the galvanic current (ten to twenty milliamperes being used) passed through graduated dilators, the negative pole in the cervical canal. You will pardon me for emphasizing the necessity of observing rigorously the principles of asepsis, always remembering that the vulvar opening is the entrance to the abdominal cavity. The hands and instruments should be as thoroughly sterilized before and after the treatment of each case as for the performance of any surgical operation. Infection may enter the minutest abrasion. The cotton and wool and cord used in tampons, and vaseline or other lubricant should be sterilized by heat. The portion of lubricant needed for each case should at the time be removed from, and the lid immediately replaced upon the jar. If the above mentioned points be observed there remain only two sources of inflammation to be occasioned by local treatments: (1) the breaking of an abscess in the ovary or elsewhere by the necessary manipulation, and (2) the making of an abrasion by passing a sound into a septic uterus, thus permitting the entrance of germs already lodged in the uterine mucosa. You cannot be sure of avoiding the former of these dangers but you can diminish the latter by using little or no force in passing the sound and by subsequently applying the iodine-carbolic solution or other antiseptic to the surface over which the sound has just been passed.

Pruritus vulvæ, amenorrhea, menorrhagia, metrorrhagia, leucorrhea, dysmenorrhea, besides the thousand and one reflex symptoms, are usually in a measure relieved by the proper treatment of tumors, malpositions and inflammations.

The hemorrhage occasioned by the presence of intramural fibroids may in many cases be lessened by the application of the galvanic current.

The discomforts which arise from flexions may be reduced by dilating the cervical canal as before mentioned. The symptoms of retroversion may be relieved by the treatment of the coexisting endometritis or metritis, the use of wool tampons and in cases in which the ovaries and tubes are not inflamed or other contraindication exist, by the placing of a carefully-fitted pessary.

The inflammatory conditions of the genital tract, I believe to be always occasioned by the presence of germs; the inflammation, that is, the round-cell infiltration, being simply an effort of nature to prevent further ingress of bacilli. The treatment, therefore, resolves itself into (1) the destruction of the bacilli, the most common of which as we now know them being the gonococcus, the bacillus tuberculosis, the coli communis, and the staphylococcus and streptococcus, and (2) by the improvement of the local and general nutrition, thus increasing the resisting power of the tissues. The destruction of the germs is accomplished by the application of various antiseptics, my favorite one for the lining of the uterus being a fifty per cent. solution of carbolic acid in Churchill's tincture of iodine and to the vagina a wash of 1–8000 bichloride of mercury solution, or a solution of potassium permanganate. When the vaginal passage is unclean a vaginal douche should be given before proceeding further with the treatment. When the invading germs are destroyed nature at once begins to remove the inflammatory barriers. In this work we can assist her in many ways. The absorption of the periuterine adhesions which may have formed is hastened by the application of the galvanic current, the positive pole being connected with a moist absorbent-cotton electrode placed in the vaginal vault, hot vaginal douches—three to six quarts—given from a fountain syringe, the patient being in an easy recumbent position, and the leaving in the vaginal vault a tampon saturated with eight per cent. ichthyol in glycerine. These same measures hasten the absorption of the infiltration in the uterine mucosa and muscle. Those measures also which improve the general tone of the whole organism should not be forgotten.

I might in this connection mention the fact that I have in membraneous dysmenorrhea been pleased with the results following the intrauterine application of the galvanic current, negative electrode—twenty-five milliamperes, thorough currettement being previously done.

A FEW REMARKS UPON THE ASTHENOPIA OF SCHOOL CHILDREN.*

By JOHN R. ROGERS, M. D., GRAND RAPIDS, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

MY object in writing this short paper is to call to the attention of the general practitioner the prevalence and mode of evolution of refractive errors of school children, giving rise to those asthenopic symptoms familiar to all. I have therefore to apologize to those present who have made a special study of ophthalmology for the somewhat elementary character of my remarks. I also wish to acknowledge my indebtedness to DOCTOR S. D. RISLEY's able monograph on school hygiene, which will repay a careful perusal by anyone specially interested in this subject.

The newborn child is farsighted, that is to say, parallel rays of light entering the eye while it is at rest do not focus upon the retina, but would if prolonged, come to a focus behind it. In other words, the eye is too short. In the course of an ideal development the eye would enlarge with the growth of the child, until a condition of emmetropia had been arrived at, one, namely, wherein rays of light coming from a distant object would focus exactly upon the retina. As a matter of fact this ideal development seldom attains its perfection, for emmetropia is a rare condition. The majority come within a reasonable distance of it, and with such the oculist is not concerned; a considerable minority, however, either are stopped too soon in this development and remain hyperopic, or go too far and are myopic. To follow out this line of reasoning we will say that in those where the development is not regular, astigmatism results from a greater curvature of one of the corneal meridians as compared with the one at right angles to it. We know, of course, that there are a great many other causative factors of the conditions enumerated above, but as a general rule what I have said will probably hold.

Let us inquire as to how this development of the eye is effected, and how it is modified by occupation and surroundings.

Animals in the wild state are hyperopic, and such, no doubt, were our forefathers in the prehistoric ages. In those days man did not occupy his hands with minute labor; reading and writing were not evolved from his dawning intelligence, and his arithmetic was probably limited to what he could count on his fingers. His eyes were of use to him to discern his distant enemy or his distant quarry, and they were admirably suited to that purpose. It is only with the advent of education that we encounter myopia, and if the prognostications of many learned professors are to be believed, we are to evolve into a race of smooth-pated, toothless, beardless, myopic individuals.

Nearsightedness, or rather the tendency to myopia, runs in families. This tendency consists in a weakness in the ocular coats which allows them to stretch and give under a strain. As RISLEY has said, in nearly every case a myopic eye is a sick eye.

*Read before the GRAND RAPIDS ACADEMY OF MEDICINE.

In the production of eye-strain, accommodation, namely, the adjustment of the eyes for work at the near point, plays an important part. We know that a person with normal or emmetropic eyes has to increase the curvature of his crystalline lens to an amount equal to the addition thereto of a 4.00 diopter lens, in order to focus an object at the reading point. We not infrequently find children who are hyperopic to an extent of three or four diopters. These cases are obliged to overcome first their hyperopia, and in addition to add the four diopters necessary for them to focus at the near point. This is all accomplished by their accommodation or contraction of the ciliary muscle, and we can readily see what an enormous strain it must be for such a person to do any continuous close work. It is no wonder therefore that in such cases the patient complains of headaches, pain in the eyes, occasional blurring of vision, and that we find a congested choroid, injected conjunctivæ, and red eyelids.

The effect of this excessive strain on a person with weak eye tunics will be a gradual giving and stretching of the same, producing finally, if long enough continued, a condition of myopia. This change if not carried too far might at first sight be considered an improvement, but we will see that it is not so. Such a yielding of the eye tunics cannot take place without a dangerous congestion of the retina and choroid, a vascular disturbance which seriously impairs the usefulness of the organ. Nor is this all. The yielding of the eye structures is unfortunately not uniform, and instead of having a hyperopic eye progressing gradually into a less hyperopic one, we find that astigmatism develops. RISLEY has said: "My own cases, without exception, passed from the hypermetropic ball over into nearsight through the turnstile of astigmatism."

When astigmatism is once developed it involves a train of evils which are only too familiar. It is true that a considerable degree of it can be overcome by ciliary contraction, but the contraction must necessarily be unequal in the two meridians of the eye, and we can readily imagine what the effect of the strain would be upon the sensitive organism of most children.

The unhygienic conditions of so many school rooms are an assisting factor in the development of refractive errors. The supply of light either scanty or injudiciously distributed, the badly arranged and faultily designed seats and desks are all factors of the greatest importance. For an able discussion of these topics I would refer you to DOCTOR RISLEY's article before mentioned.

What can we do to obviate or counteract the evils I have spoken of ?

In the first place every child when entering a school should have its vision and accommodation tested. This can be readily and easy done by the teacher. In every case wherein these fall below the standard they should be investigated by a medical man, who would decide whether the defect was sufficiently great to need correction, and could advise as to the amount of work each child was capable of performing. It is not to be expected that a child with any considerable degree of uncorrected refractive error can do the same amount of work as a child with normal eyes; nevertheless that is just what is expected in most of our schools. If the child does not learn, the failure is attributed to deficient mental power, an injustice as great as that which classes as stupid the child afflicted with adenoids.

Our school buildings should be constructed more with regard to the use to which they are to be put, than to aesthetic, economic or political considerations. We would not then find in them rooms such as are found in one of our more modern school buildings, in which artificial light is needed the greater part of the day, and the heating supplemented by gas stove.

The refractive error in each child, when of sufficient magnitude, should be corrected by the suitable lenses, and this correction can only be estimated with the aid of a mydriatic. This should be powerful enough to produce complete suspension of accommodation. I prefer atropine sulphate, one per cent. solution, instilled three times daily for two days, refracting on the third day. This will cause suspension of accommodation for a week or ten days, and is of benefit in that it allows the ciliary muscle a complete rest for that period of time, diminishing, in most cases the congestion of the ocular fundus. In a few cases wherein a suspension of accommodation for so long a period is not desirable, I have used scopolamine hydrobromate with satisfactory results. In making the test I depend almost entirely upon an objective method of determining the refraction, and have found skiascopy or shadow testing entirely accurate. This method is invaluable as we can determine the exact lens required without asking the child a single question, or depending in any way upon the reading of the test card.

THE EFFECTS OF ALCOHOL AND THE DUTY OF THE MEDICAL PROFESSION TOWARD THE PUBLIC.*

BY G. H. SHERMAN, M. D., DETROIT, MICHIGAN.

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WHEN we consider that there is more money spent, in this country, for alcoholic liquors than for bread, "the staff of life," besides the untold suffering and misery it causes, the effect of alcohol, when taken into the human body, becomes a question of such importance that the members of the medical profession cannot consistently refuse it consideration. The public looks to the members of the medical profession, from the nature of the vocation, as the profession preeminently qualified to give advice on questions of proper living, food and drink, consequently, any advice given by a member of the profession on the effects of alcohol should be given in accord with truth as ascertained by scientific investigation and the teachings of experience, because such advice carries with it weight and authority.

Ethyl alcohol, C_2H_6O, may be produced by synthesis but is usually obtained from glucose or some other sugar by a process of fermentation by means of the yeast germ. Pure alcohol is very irritating to the mucous membrane. When diluted with water it has an agreeable aromatic taste. When taken internally it causes a feeling of warmth to pass over the body and produces a sensation of buoyancy or exhilaration. It causes fatigue, mental worry and other disagreeable sensations to vanish, and makes the individual feel much stronger than he really is. These pleasant effects have created a popular impression that alcoholic liquors are quite useful under all circumstances and at all times, "if not used to excess," and hence the general use or rather misuse they have been put to.

There has been much written and said on this subject but all that can be done in a paper of this character is to summarize the facts as ascertained by the various investigations and give the reason for arriving at such conclusion. When alcohol is taken into the stomach it is absorbed unchanged into the general circulation. When a small quantity is taken, it is largely decomposed or burned up in the body, but when more than one and a half or two ounces is taken in twenty-four hours it reappears unchanged in the exhaled air and urine.

That the alcohol which is eliminated unchanged from the body does not answer the purpose of a food, is admitted by all investigators, but whether the portion which is decomposed in the body answers the purpose of a food or not, requires more careful consideration. To prove that any substance answers the purpose of a food, it must be shown that it aids in the purpose of performing a normal function, such as giving muscular or nerve force or assists in keeping the body warm. That alcohol produces any such results has never been proved. If we are able to convert alcohol into kinetic energy by producing muscular force, it must be shown that the muscles have at least retained if not increased their power after taking it. This has never been demonstrated. Trainers for prize contests have found, that while a person is in training and also during a contest, he does better without alcohol than with it. Alcohol has been given to horses to aid them in winning races, but has been found to be of no value. Strychnine is being used for this purpose with success. Delicate mechanical instruments have been devised to test and register the strength of the various groups of muscles which have been used to study the influence of alcohol on muscular force. By means of a mercurial dynamometer DOCTOR J. H. KELLOGG has found that the average muscular strength of the various groups of muscles of a man two hours after having taken two ounces of whiskey is but about two-thirds what it was before. DOCTOR KELLOGG further states: "The test taken fifteen minutes after the administration of the alcohol showed a small increase, but a repetition of the test two hours later showed a diminution of more than nine hundred pounds, and ten hours later the patient's muscular strength was eight hundred pounds, below his normal standard. The explanation of the apparent increase of strength immediately after taking the brandy is found in the remark made by the young man, that he felt more ready for work than he did before, and lifted with greater ease. He thought he could lift as much again, but the result of his efforts fell far short of his expectations. This first effect was evidently due, not to any strength derived from alcohol, but to the benumbing influence of alcohol upon a nerve centre, and the production of a state of mental exhilaration arising from the increased flow of blood to the brain. If any great strength would have been derived from the alcohol, it would have been more apparent two hours later, when sufficient time has elapsed for complete absorption and assimilation of the drug, rather than immediately after it has been swallowed. The notable diminution in strength which appeared within two hours after the alcohol was taken, and was still present at the end of ten hours, is most conclusive evidence that the drug possesses no value as a food, and cannot be regarded as a source of muscular energy. One curious result which I invariably noted in the studies of the effect of alcohol upon muscular strength, is the fact that the most notable diminution in strength is always to be observed in the lower extremities. It will be observed that these results agree with those obtained by REICHERT in experiments upon the heart of the frog, and by PARKES, of England, in experiments upon soldiers at work."

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

PROFESSOR G. BUNGE, in his "Textbook on Physiological and Pathological Chemistry," states: "The uselessness, if not harmfulness, of even moderate doses of alcohol rests on better evidence than scientific deduction and experiments. In connection with the sanitation of armies, thousands of experiments upon large bodies of men have been made, and have led to the result that, in peace and war, in every climate, in heat, cold and rain, soldiers are better able to endure the fatigues of the most exhausting marches when they are not allowed any alcohol at all."

That muscular strength is not always in proportion to the size of the muscles but depends largely upon the nerve force which the central nervous system can force into the muscle, is a matter of physiological knowledge. From this fact we must conclude that, inasmuch as the muscles cannot perform as much labor with as without alcohol, the alcohol has not increased but diminished nerve force as well as muscular force, and consequently cannot be considered a muscle or nerve food.

If alcohol does not serve the purpose of a muscle or nerve food, does not the oxidizing or burning up of alcohol in the body produce animal heat and thus serve the purpose of a food by assisting in keeping the body warm? This cannot even be admitted.

The bodily temperature, except under unusual conditions, is always considerably above the atmosphere surrounding it. This normal temperature is automatically maintained by the influence the sympathetic nervous system has over the production and radiation of heat, which latter is largely accomplished by varying the amount of blood circulating in the skin. One of the most noticeable effects of alcohol in even moderate doses is the fact that it increases the amount of blood circulating in the skin by the paralyzing influence it has on the vasomotor nervous system. While it must be admitted that the combustion of alcohol in the body produces a certain amount of heat, the alcohol at the same time causes an increased amount of blood to circulate in the skin and this causes an increased radiation of heat. The result is that there is more heat lost by this increased radiation than there is gained by the combustion. By means of the clinical thermometer this, it appears, has actually been demonstrated.

The so-called "warming effect" of alcohol is caused by the effect it has in increasing the circulation of blood in the skin and the benumbing effect it has on the nerve centres which have to do with the sense of heat and cold. Taking alcohol to keep the body warm is like taking the outer cover away from a boiler so a greater portion of the heat produced by the fuel can be radiated, instead of being converted into steam. The uselessness of alcohol as a heat producer has been abundantly demonstrated by people exposed to extreme cold. DOCTOR HAYES, the Arctic explorer, says: "While fresh animal food, and especially fats, is absolutely essential to the inhabitants and travelers in Arctic countries, alcohol in almost any shape is not only completely useless but positively injurious." GENERAL GREELY says: "It seems to me to follow from these experiences that the regular use of spirits even in moderation under conditions of great physical hardship, continued and exhausting labor, or exposure to severe cold cannot be too strongly deprecated."

It seems to me that these are evidences enough to prove that alcohol does not serve the purpose of giving us muscle or nerve force nor of keeping the body warm, and consequently cannot be considered a food.

If alcohol is, not a food, does it not serve a useful purpose indirectly by retarding the metabolism of the body? Does it not stimulate the brain so mental work can be performed more readily, give new vigor after hard labor, or aid in digestion?

After it had been demonstrated that moderate doses of alcohol diminishes the amount of carbon and nitrogen eliminated, many physicians took the position that alcohol serves a useful purpose by "diminishing the waste of the body." To admit this proposition is equal to admitting that nature does not understand her business. Are not the intricate chemical changes which take place in our body, converting the food into living tissues, and eliminating it as waste products, the very source of our energy, life and existence? What means have we of knowing whether these intricate changes are too fast or too slow? The metabolism of the body is automatically controlled by the sympathetic nervous system working in an inhibitory or accelerating manner as may be required, and to interfere with this natural self-regulating process by means of a narcotic substance is, to say the least, unwise. The late SIR B. W. RICHARDSON came to the conclusion, after a number of careful experiments, that alcohol does not diminish metabolism but retards the elimination of the waste products, causing them to accumulate in the body.

How anyone can recommend alcohol as an "aid to digestion" in the present state of our knowledge concerning the processes of digestion is inconceivable to me. That alcohol does not possess the properties of a digestive ferment is admitted. All the experiments that have hitherto been made indicate that alcohol retards, rather than assists, the action of the gastric juice. Some physicians think alcohol serves a useful purpose from its irritating effect on the mucous lining of the stomach if taken before meals, thus causing an increased flow of gastric juice. Nature has evidently supplied the normal stomach with enough digestive powers without the necessity of being stirred into activity with a hot poker. Experience sustains this opinion. No case can be shown wherein the digestive powers of a normal stomach have been enhanced by alcohol but innumerable cases can be produced wherein the irritating effect of alcohol on the lining of the stomach has produced chronic dyspepsia.

That alcohol is not a stimulant but a sedative has been maintained by LEMAN, N. S. DAVIS, SIR B. W. RICHARDSON and many others for a long time This idea has been so at variance with the universally accepted doctrine that i required much careful investigation to demonstrate it as a fact. Principles an ideas which are easily demonstrated to the senses are usually readily accepted and adopted, but when a proposition requires careful investigation and thought ful consideration, the learned may even be slow seeing the truth. PROFESSOR G. BUNGE further says: "Alcohol has invariably a paralyzing influence. All the results which on superficial observation appear to show that alcohol possesses stimulant properties, can be explained on the ground that they are due to paralysis."*

The idea that alcohol stimulates the brain so mental work can be performed more readily is deceptive. That ideas flow more rapidly after taking alcohol may be admitted, but this does not prove that the brain has been stimulated. It is quality, rather than quantity, of thought that makes the world move. That some people can say sharp and witty things after taking alcohol is true, but the same can be said of some patients locked up in insane asylums. It is the power of reason and judgment which preeminently distinguishes man from the lower animals. It is by means of our reason and judgment that we are guided through life. Reason and judgment keep us from performing rash acts, and saying indiscreet things. It makes us see the dangers and difficulties of life and consequently causes most of our mental worry and suffering. On the other hand, reason and judgment gives us our philosophy, science, literature, art and inventions.

The first noticeable influence that alcohol has over the mind is that the individual says and does things which have not been well considered. He no longer has his usual amount of care and forethought. He becomes communicative, active, confiding, abusive. His power of reason and judgment, the balance wheel of his mental being, has to a greater or less extent been paralyzed so that the lower propensities of his mind are no longer held in check. Self-admiration increases as his power to criticise himself diminishes. Care, worry, and mental suffering vanish, he becomes happy and jubilant, because reason and judgment, the very things which point out the dangers and difficulties of life, have been paralyzed. It is for this reason that so many people drink, who think they have more troubles than they can endure. All brain-workers who have not addicted the liquor habit, find that they can solve more intricate problems and do better mental work generally without alcohol than with it. Alcohol does not stimulate the mind, but paralyzes the nerve centres which have to do with reason and judgment, so the lower propensities of the mind are no longer held in check. When large doses of alcohol are taken, all the mental functions are suspended, a profound stupor sets in, which sometimes results in death.

The increased frequency of the heart's action is usually cited as an evidence that alcohol is a stimulant. PROFESSOR G. BUNGE still further says: "It has nothing to do with the action of alcohol, but is caused by the surroundings among which the alcoholic drinks are usually taken. It is a consequence of the excited condition, and, according to the experiments hitherto made, does not occur when the body remains quiet."

One of the most popular reasons for drinking alcoholic liquors is that it "gives new strength after hard labor." People have often told me that if they take beer or wine after hard labor, their strength is restored sufficiently so they can do the same work over again. Here the deceptive influence of alcohol makes itself clearly manifest. Fatigue is one of the essential senses of our body because without it we would have no means of knowing when we have exercised or labored enough. The sense of fatigue is not a pleasant one, and most people desire to get rid of it as best they can. The natural way to do this is to take rest; an artificial way is to take alcohol. Alcohol does not restore muscular force, does not give new strength, but simply paralyzes the nerve centres which have to do with the sense of fatigue. To paralyze the sense of fatigue so work can be continued is like removing the governor from a steam engine so the unusual speed will wear out the machinery.

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* The opinions of several prominent scientific men on this subject were recently brought out in a trial in which DOCTOR HIRSCHFIELD, of Magdeburg, Germany, was the defendant. The court charge was acceleration of death, or homicide by negligence, in not using spirits freely. DOCTOR HIRSCHFIELD asserted that he had never in his long practice used any form of alcohol in the treatment of his cases. He considered it dangerous, and that it never gave strength, but always detracted from the power and vigor of the patient. In this trial PROFESSOR BINS, of Boon; PROFESSOR STRUMPEL, of Erlangen; PROFESSOR HARNACK, of Halle, and DOCTOR SMITHE, President of the German Medical Society, also the Medical Council of Saxony, consisting of five physicians with the president, made a series of statements all confirming the following general facts: "The idea that alcohol gives strength is deceptive. While any form of alcohol may produce an apparent form of stimulation, there is always a reaction in a profoundly marked diminution of energy. The special paralyzing action of alcohol on the brain and spinal cord is no longer a theory, but a fact which can be measured and proved. We are confident that experience will fully sustain our belief that no single human life which would have fallen a prey to death without alcohol has ever been saved by alcohol."

This effect of alcohol is particularly dangerous to laboring people who drink liquors. It relieves them from fatigue, but lays the foundation for undermining their constitution because they are left without a guide to gauge the amount of work they can endure.

The sense of tedium is the reverse of that of fatigue. Tedium drives us to exercise, so muscles and nerves will develop, while fatigue obliges us to take rest. It is another link in the chain which makes the working of our body automatic. Lazy people find this sense particularly disagreeable. To exercise is too much like hard work and without it they can neither eat, sleep nor rest with satisfaction. They are driven from one place of amusement to another, but find it impossible to get away from themselves. The natural way to get rid of tedium is to exercise; an artificial way is to take alcohol. Alcohol paralyzes the nervous mechanism which has to do with the sense of tedium and consequently destroys one of our important senses. There is nothing which so completely destroys mental, moral and physical development as to continually deaden the sense of tedium by taking alcohol.

The question is often asked why it is that brain-workers are so liable to become addicted to the alcohol habit. In the brain-workers we often have a combination of mental fatigue and tedium. The business man who uses his best wits and mental energy to buy in the cheapest market and sell in the dearest, the accountant who worries over figures all day, the professional man who reads the best books he can find to obtain knowledge, the draughtsman who is working out the complicated details of a building, bridge or machine, finds that, at the end of the day, his mind is tired; a heavy feeling takes possession of his head. But during all this time he has taken no physical exercise. His muscles have been at rest; he is restless, nervous, and uneasy; a nerve force has been accumulating in his body which nature demands shall be eliminated by muscular activity. Here we have a fit subject for the alcohol habit. To take exercise he has neither the time nor inclination. He takes wine or some distilled liquor and finds, at once, that he is relieved from his mental fatigue and nervousness. Rest and sleep become possible, but he has violated a law of nature. He gets up in the morning, feels drowsy and finds "an eye-opener" necessary; goes through the same routine the next day with the same result. As time goes on more and more of the alcohol is necessary to produce the same effect. He takes it and the results are familiar to us all.

The evil effects of alcohol-drinking are produced by the insatiable desire it creates in many people to take more. The man who takes alcohol to relieve himself from fatigue, tedium, mental worry or any other disagreeable sensation finds, as time continues, that it requires more and more of the drug to produce the same results. This is not only true of alcohol but holds good with all narcotics such as morphine, opium, chloral, chloroform, ether, cocaine, et cetera. When we consider that these drugs exert their influence by destroying nerve sensibility, and when we recognize the fact that nature always exerts her influence to restore and maintain any sense which she from necessity has created, the cause for the desire for an ever-increasing dose that these drugs create becomes apparent.

If a man, for example, takes alcohol so he can work without feeling the sense of fatigue, nature gradually adapts herself to the changed condition by changing the sensibility of the nerve centres which have to do with fatigue, and restores that sense. But the man wants to work without becoming tired, and finds that he must now take more alcohol to gain his end. Nature on the other hand adapts herself to the still further changed condition and again restores the sense of fatigue; the man takes still more alcohol and so the race goes on between the desire of the man, and the nature within him, until finally enormous doses are tolerated without obtaining the desired relief. The alcohol which is thus taken to relieve fatigue at the same time exerts its influence in paralyzing the sense of tedium and the sense of heat and cold, interferes with digestion and the functions of the liver, disturbs the automatic regulation of the blood supply by paralyzing the vasomotor nervous system, retards metabolism and elimination, interferes with the coordination of muscular activity, and disturbs the function of the brain generally; while nature, in the midst of all this disturbance, is continually making an effort to restore these senses and functions to their normal standard by adapting herself to the changed condition. If alcohol is now suddenly withheld from such an individual he experiences all the discomforts imaginable. His senses and nerve centres have become changed to correspond to an abnormal environment. He suffers all the pains of fatigue and the discomforts of tedium. He sees the dangers and difficulties of life more clearly than before, hence mental worry and suffering. He can neither work, rest, eat, nor sleep with satisfaction. His whole body trembles under a nervous strain. What wonder is it that such a man will seek relief in alcohol again?

Such are the effects of alcohol on many of our toilers and idlers, professional men, business men, brain-workers and scholars, simply because they are led into the belief that alcohol is of benefit to them, because it relieves them, temporarily, from disagreeable feelings which nature has found necessary to their existence. It is often said that these people abuse a privilege by taking too much. But the simple fact that alcohol creates an abnormal desire for it proves that alcohol is responsible for what it does with the man, and not the man, as long as he takes it. And again, many people who are moderate drinkers are so against their own inclination from social reasons. My experience is that a very large percentage of people who drink, would drink until they became intoxicated if they followed their inclination but do not do so because they claim they have "sense enough to know when to quit." Every drunkard said the same thing before he became a drunkard.

If alcohol is a poison, and if it is contrary to the laws of nature to take it as a beverage, why is it that so many people, who take alcohol regularly, have good health and live to an old age? That they live longer and have better health than total abstainers do has never been proved; and that a large percentage of those who drink get sick and die from the effects of alcohol is a fact which all admit. That nature is very tolerant to abuse is being very graphically demonstrated by the manufacture of antitoxin. Recently, while going through a bacteriological laboratory, I was shown a flask of diphtheria antitoxin which had been prepared for immunizing purposes, and was told that an injection of two drops of that flask's contents had recently killed a newly admitted horse while a horse standing in the next stall received twenty thousand drops from the same flask with but little effect.

Acclimated people can live in a malarious atmosphere and enjoy good health, and many people get fat while living under very unsanitary conditions. All this is simply a question of nature adapting herself to conditions. In the so-called moderate drinker we have a case in which nature has adapted herself to the alcohol condition the same as in the antitoxic horse which had adapted herself to the diphtheria condition. The same thing takes place with people who eat opium or other narcotics.

The duties of the medical profession toward the public on this subject are plain. The public has a right to expect from the profession such knowledge as will lead to right living. If alcohol is not a food, nor a stimulant, nor a substance that is capable of adding strength or health to the body, which the evidence show it is not, the physicians should be in a position to give all the facts without fear or favor and until he does that he is not performing his full duty to the human race. Public instruction on the effects of alcohol by the medical profession has taken definite form in Holland, where six hundred physicians signed their names to the following "Medical Declaration:"

"(1) The use, in moderate quantities, of spirituous liquors is always injurious. Alcohol does not assist digestion but, on the contrary, hinders it. It may excite momentarily the feeling of hunger, but it does not increase the digestive powers. We say further, that many affections of the stomach, which are attributed to twenty different causes, have no other origin than the habitual use of alcoholic liquors.

"(2) The popular opinion that spirits are stimulants necessary or harmless when taken during the extremes of cold or heat by persons engaged in work requiring great exertion, or by those exposed to damp air, or by persons working in water or in marshes, or by those whose food is insufficient is false. These prejudices are not only contrary to experience, but it has been proved that the habitual use of alcoholic liquors has precisely the contrary effect from that which people attribute to them.

"(3) In all diseases, especially those in which the changes are rapid, such as fevers and cholera, those who make a habitual use of strong drink are the least able to resist the power of the disease.

"(4) For all these reasons, spirituous liquors should not be regarded as popular drinks, but, according to our views, should be looked upon as most dangerous, destructive of prosperity, moral and material, of the masses."

I think we would do well to follow the example of our medical brethren in Holland.

INJURY OF THE BRAIN, FOLLOWED FIVE YEARS SUBSEQUENTLY BY EPILEPTOIDS AND MANIA: TREPHINING AND RECOVERY.*

By D. L. WALMSLEY, M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

This case, to me, was an interesting one. On March 23, 1868, I was called to the home of A. R., a distance from my office of six miles, to see his son, a lad of nine years of age, who had been kicked by a newly shod horse. On arriving at the scene of accident I found the lad unconscious with a wound on his forehead, the result of the kick. The wound was the full size of the toe calk of the shoe, about two inches long, from which blood and brain matter was oozing. The location of the injury was over the frontal eminence a trifle to the left of the median line or longitudinal sinus. The toe calk being new, the cut through the flesh and bone was clean as if by a knife. The bone was depressed sufficiently to admit the end of my little finger, which was used to explore the extent of injury. After thoroughly cleansing the wound I elevated the depressed portion of bone, bringing the fractured edges fairly into apposition, drew the flesh wound together, applied adhesive plaster over the cut, bandaged the head and left the lad comfortable and conscious.

The following day I visited the boy and found him happy and not suffering much pain. His head was a trifle hot, and I advised the application of ice and gave a laxative. The third day I found my patient lively, and amusing his brothers and sisters, and apparently as well as any of the clique, though confined to his bed. Day after day his case continued to improve without a drawback. He made a good recovery, attended the public school and learned tolerably well, but was fretful. This fretful condition increased as years went by until he became so irritable that he was difficult to manage and if angered became ungovernable. This irritable stage grew so bad by the time the lad was fifteen years of age that it became a mania which at this stage was complicated with epileptoid convulsions. The maniac became dangerous to himself and others and it was found necessary to confine him in a room especially prepared for him.

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* Read before the Detroit Medical and Library Association.

At the age of seventeen the case was much as above described, and being widely known of was much talked about. Many opinions were ventured as to the cause of the mania and epileptoids. My conviction in the case was that the madness, et cetera, was due to local irritation at the seat of former injury, probably bony nodules, and I suggested trephining. It is fairly reasonable to presume that my suggestions would meet with opposition. People in the country have a dread of the knife, even at the present day. However, like a good preacher, I stuck to my text and was rewarded in the end by being permitted to operate. This I did, kindly assisted by neighboring physicians, and, cutting down over the former injury, removed a button of bone and to my delight, on inspecting the same, found growing from its inner surface a sharply pointed, cone-shaped projection of bone three-eighths of an inch long. This sharp-pointed bony growth grew from the suture of union of the fractured bone. At the point of contact of this sharp-pointed bony growth with the membranes of the brain the tissues were congested and thickened, very vascular, having the appearance of a nest of red worms. Satisfied I had found the cause of the trouble I closed the wound and it healed without a drawback. The boy had no more convulsions, the mania resolved into irritability, and at the end of three months the lad was again serving as a farm hand doing general work, and at the end of one year from the date of the operation was as useful a member of society as the general run of boys.

Associated with the case we have a number of interesting features. Local injury, shock to the nervous system, laceration of the coverings of the brain and brain substance with loss of cerebral matter, and unsanitary surroundings; nevertheless, an uninterrupted recovery from the original injury, followed by epileptoids and mania, trephining and restoration to perfect health of body and mind.

The sanitary surroundings were anything but encouraging. The shanty, for such it was, was small, low and dirty. In one corner stood swill pails surrounded by dirt. In another corner baskets of dirty clothes. In the opposite corner stood the stove that warmed the whole shanty including the loft in which were stowed away seven dirty children, while the parents' bed and that of the patient occupied the remaining corner. Truly a nidus for bacteria, yet my case recovered without a drawback.

The home of my patient during his maniacal state was a slight improvement (barring the dirt) on the shanty of his original injury, being a two-chambered palace in which the plate glass windows were so highly transparent that in order to obtain light to see to do the trephining we had to make use of the open door. The only solution I see explicable to this apparent want of sanitary surroundings is that the dirt was clean dirt and not a fit nidus for deadly germs to propagate in.

Many of the nerve centres are pretty definitely located. In the corpus striatum is located the heat centre. That for epilepsy in the medulla oblongata. Irritation of the cerebral cortex in the case under consideration produced epileptoid convulsions probably a reflection of the irritation to the epileptic centre in the medulla, the peculiarity in this case being the seat of cortical lesion. So far as I am aware no nerve centre has been located in this region, namely, between the frontal eminence and superciliary ridge bordering on the longitudinal fissure. Cortical lesions in various regions have defined results. For instance, disease of the posterior extremity of the inferior frontal convolution indicates motor aphasia. Cortical lesion of the occipital lobe, word blindness. Word deafness, cortical lesion of the anterior half of the superior and middle temporal convolutions. Sensory disturbances of the skin are due to cortical lesions. The centre of vision is the angular gyrus and supramarginal lobule, and complex movements of the arms and legs are located around the upper extremity of the fissure of Rolando, et cetera.

Psychical derangements indicate, in general, disease of the superficies of the brain. The subject of my paper grew irritable, more irritable, most irritable until he became a maniac. The maniacal derangement being of that restless nature we see in wild viscious animals caged, being constantly on the go, tearing everything he could get his hands on, climbing the wall, abusive and filthy in habits, dangerous, so much so, that he had to be confined in a room locked and barricaded, with boards for his bed. A point worthy of special note in this case is the raving nature of the mania associated with the seat of irritation—the frontal region. So far as I am aware the frontal cortical region has not been accredited with any nerve centres.

In the case under consideration we have cause and effect. We remove the cause and like snow, before the heat of the sun, the effect disappears. We have no paralysis, but violent mania. Is the frontal region of the brain the special seat of reason? Have we located a nerve centre indicative of violent mania?

Trephining the living is not looked upon as vivisection yet it is vivisection. From vivisection we may hope for the greatest advances in localizing motor centres. Much good has been the result of vivisection of animals, and much remains to be accomplished, but are there not centres in the human brain which it is inprobable can be defined in animal brains, therefore the great necessity for a wider field in vivisection. I know I am approaching dangerous grounds when I dare to assert that I believe it would be a lasting benefit to humanity and to medical science, were it lawful for doomed criminals to be subservient to scientific research by vivisection. The death under anesthesia would be painless, the justice of the law would be vindicated, the criminal would have attoned for his crime, science would be advanced, and suffering humanity be the gainer.

The localization of the centre of motion for the leg, the arm, the face, and the importance of the regions adjacent the fissures of Rolando and Sylvius, even to minutia, has been largely the result of vivisection of animals. The centres of sight, hearing, taste, smell and touch are less certain, while of the mental processes little is known and much may not be expected until some system of vivisection of the demented be practicable. The case of DOCTOR MACEWEN, of Glasgow, reported in *The British Medical Journal*, August 11, 1888, illustrates a case in question: "A man had received an injury on the head which resulted in melancholia terminating in 'psychical blindness' which was relieved by trephining over the "angular gyrus.'" Trephining the boy, my own case, over the frontal region, restored an epileptoid and violently crazy boy to usefulness as a member of society.

Since the localization of the motor centres many sufferers of epilepsy have been relieved. While the results have not been as satisfactory as wished for, yet the door has been opened. Let not, therefore, mock modesty or Canon Wilberforce zealotry interfere and prevent the onward march of brain surgery that has had its beginning in the close of the nineteenth century.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, JANUARY 10, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR D. L. WALMSLEY read a paper entitled "Injury to the Brain, followed Five Years Subsequently by Epileptoids and Mania: Trephining and Recovery." (See page 368.)

DOCTOR HITCHCOCK: I have been very much interested in the doctor's paper. The case is more valuable than many of the cases of injury of the brain. Ample time has elapsed here to insure recovery. We have here a lesion of the frontal region of the brain which, in its relation, would involve the anterior part of the frontal lobe. Now, the anterior portions of the frontal lobe are the seat largely of the mental faculties, and the mental disturbances which we would expect here instead of being motor would be sensory. I do not understand what the doctor means when he says that the epileptic centres are situated in the medulla. I cannot agree with the doctor in his statement. I think we can get epileptic sensations from any portion of the brain. I would like to ask the doctor if he knows whether this man is perfectly self-controlled, perfectly normal mentally. [The speaker here referred to a case which he had reported at the State Medical Society at its meeting in Mount Clemens.]

Doctor Maass: I understand this case was operated upon quite a long time after the injury had taken place. Surgeons recommend that injuries of the brain should be operated upon right after the injury. I have had the same experience as **Doctor Hitchcock**. I recall the case of a young man who received a severe injury to the brain right over the frontal lobe. He was immediately taken to the hospital, operated upon and soon afterward left the hospital. Sometime after leaving epileptic attacks came on. There was a defect in the skull on the left side just over the frontal lobe, from one and one-half to two inches in diameter, and, when he bent down his brain pushed forward about half an inch—a perfect hernia of the brain. He had true epileptic attacks. There was too much room for the motion of the brain substance. An operation was performed to lessen the possibility of the brain protruding, which was successful. There were no epileptic attacks after this.

Doctor Flintermann: Injuries to the brain are important from a medicolegal standpoint. I insist that careful inquiry be made as to the extent of the injury and advise great care in postmortem examinations.

Doctor Walmsley: **Doctor Hitchcock** asked me in reference to the medulla oblongata being the centre of epilepsy. I think that possibly the best authority we have in this country, **Doctor Hammond**, of New York, locates the center for epilepsy in the medulla oblongata. We know that cortical lesions will produce epileptoid and epileptiform trouble. **Doctor Hammond** claims that the cortical troubles are reflex, acting through proper influence through the medulla oblongata. The man in the case reported is now married, has three children, and is perfectly self-controlled and a useful member of society.

STATED MEETING, APRIL 18, 1898.

The President, ANDREW P. BIDDLE, M. D., in the Chair.

Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor George W. Moran read a paper entitled "Cervical Adenitis in Childhood." (See page 355).

Doctor Imrie: We see samples every day of the conditions which the doctor speaks of, especially the acute simple adenitis, and we all see evidences of the disagreeable scars that result from the tubercular variety in the lower classes who have been neglected. This past winter, I think, has shown a very great number of the first variety of which the doctor speaks. I have found it present more frequently than at any other time in my experience. It has been attended with very acute and severe symptoms, sometimes endangering life until the ear difficulty was sufficiently established to show the nature of the trouble. The symptoms would point to the brain as the organ affected, but the otitis media manifesting itself the diagnosis was made plain. As regards the treatment I believe the plan outlined in the paper would meet the indications in each particular condition.

Doctor Sherrill: The care of patients suffering from these affections is a good deal of an undertaking, and my experience has to some extent been the same as that of Doctor Imrie. Several cases were of the acute simple affection. I recall one patient particularly, an infant about eight months old, in whom the cervical glands were enlarged, and it seemed to be a simple glandular affection. It passed on rapidly to suppuration, and, upon administering chloroform and making two small incisions so that the gland could be thoroughly irrigated, the result was very satisfactory. I have three or four children under observation in whom this simple glandular affection is present. Suppuration has not followed with them, and yet a constant fever is present, and I must say the cases seem particularly obstinate. I recall one case of the tuberculous variety which is very interesting. The patient has been seen by several physicians, in consultation with myself. The family are extremely anxious to do everything in their power to put the child on the best treatment. A great many glands are involved and the enlargement will cause several smaller glands to coalesce and make one large lump. Perhaps after a few weeks of favorable conditions this large mass will begin to spread and break up into smaller masses again. A different climate is the only thing that will cause the glandular condition to subside. I am hopeful that the child will outgrow this trouble.

Doctor Warren: I think the doctor has presented the subject in a very well classified manner. There are two or three points in his paper which I think are worthy of special emphasis. One is the fact that almost invariably these lymphatic glands become involved through primary infection in the nose, mouth and throat. Another point in his paper is the importance of early surgical interference with superficial tuberculous glands in the neck in order to avoid that most disagreeable disfigurement that follows a neglected condition of that sort; that wearing away of the tissue just beneath the skin.

Doctor H. O. Walker: I was somewhat surprised to note the low mortality that the doctor spoke of following tubercular troubles of the glands of the neck. It has been my experience in a number of years that the mortality is greater than that reported here tonight, due to the fact that timely and early operative procedures for the removal of these glands had been neglected. For instance, we have ten, fifteen or twenty of these enlarged glands and they are all deep seated. An operation necessitates their thorough and complete dissection. It is often necessary to divide the sterno-cleido mastoid muscle, throw it back and separate out these glands. It is a formidable operation, but the results are quite satisfactory. Sometimes they recur, but the only proper procedure is their removal at a subsequent sitting.

Dr. W. S. Anderson: I frequently have cases come under my care at the Harper Hospital Polyclinic. I see the acute cases very often accompanying acute naso-pharyngeal troubles of the throat. Of all the cases I see the fewest of specific infection. In the chronic forms of this trouble I find the syrup of the iodide of iron perhaps as useful as any single drug, and I give it as a routine measure in almost all of these cases. The importance of carefully removing any pathological condition of the nose and throat is one that should be emphasized. Certain children have these troubles every season. It comes from some infection of the crypts of the tonsil, or some infection of the upper respiratory tract.

Doctor Knill: Chronic inflammation of the glands of the neck are no doubt one of our most important subjects to consider for the benefit of the patient. We find that most of these troubles commence in childhood. We see a large number of children grow up to considerable age having these glands coming and going from time to time. A large number of these people have consumption afterward, and the important question to consider is, as the doctor has said in the paper, prophylaxis. The difficulty often arises from the child itself being poorly developed; a poor condition of the blood, and from troubles in the nose and throat; all of which the child is subject to because it is strumous. This class of children grow up to adult life and have consumption, and have these large glands which remain with them more or less during life. The question is, can we prevent this by attending to them when they are young and before the glands enlarge? The best success in these cases is to take these children and pay every attention to their general health, to their diet, to their outdoor exercise and the troubles in the nose and pharynx, and at the time when the attack is expected, send them to some other climate and administer the syrup of the iodide of iron. It is remarkable how these enlarged glands will disappear, and the child becomes robust and well developed. In persons from eighteen to twenty-five years of age in whom these glands are tubercular, operative procedures are necessary.

Doctor Moran: I wish to thank the members for their kind attention and liberal discussion. There is one thing in regard to the etiology of acute cervical adenitis in childhood which I wish to emphasize, and that is the frequency of its production by bad teeth and suppurating gums. I have found this form of adenitis most common at that stage of life when the first teeth were decaying, and in a very large per cent. of cases bad teeth and suppurating gums could be found on the same side as the inflamed gland. Next in order of frequency in the production of this form comes diseases of the tonsils and adenoid vegetations of the vault. In the removal of these glands a careful surgeon will not do much damage to surrounding tissues. I cannot see why their removal should be anything but a permanent benefit to the patient rather than a detriment. It is true that if these glands still retained their power over the spread and action of germs and toxins which have entered the system from diseased areas of the throat, nose and mouth, then it would be easy to understand why it would be unwise to remove them unless caseation or softening had already taken place.

MICHIGAN STATE BOARD OF HEALTH.

STATED MEETING AT LANSING, JULY 15, 1898.

The President, Honorable FRANK WELLS, in the Chair.
Reported by HENRY B. BAKER, M. D., Secretary.

The Michigan State Board of Health held a quarterly meeting at the office in the Capitol at Lansing. The meeting was called to order by the president, **Honorable Frank Wells**, of Lansing. The members present were: **Doctor F. R. Belknap**, of Niles; **Professor Delos Fall**, of Albion; **Doctor F. G. Novy**, of Ann Arbor; **Judge Aaron V. McAlvay**, of Manistee, and **Secretary Henry B. Baker**, of Lansing.

The regular business of auditing of bills and accounts was transacted.

Doctor Belknap presented, and the Board adopted, a series of recommendations which relate to the sanitary care and disinfection of schoolrooms and assembly rooms, precautions which will render the transmission of disease less frequent. The recommendations will be widely distributed throughout the State, and great good cannot fail to come from compliance therewith.

Professor Fall, who represented the Michigan plan for teaching in the schools the modes of spreading and the best methods for the restriction and prevention of the dangerous communicable diseases, at the recent meeting in Washington of the National Educational Association, reported that he read a paper and participated in a discussion, and that much interest was exhibited in Michigan's plan for the sanitary education of the people, especially the children, who will be the fathers and mothers not many years hence. In this way the people of Michigan will come to know how the dangerous diseases can be avoided.

Secretary Baker presented, and the Board adopted, a proposed circular, giving instructions for the most recent method of disinfection by use of formaldehyde gas. The instructions make it practicable for the common people to disinfect at small expense and with little trouble.

Considerable attention was given to a statement of what the Board has disapproved and what it has approved in connection with plans for public buildings during many years past. The compilation is intended to aid architects, boards of control of State institutions and others having in charge the preparation of the best plans for such buildings.

The Board considered the program for the Quarter-Centennial Celebration of the establishment of the State Board of Health. The meeting is destined to be a success from the fact that so many prominent sanitarians of the United States and Canada will be present at the meetings. The citizens of Detroit are taking special interest in seeing that Michigan's visitors are royally taken care of. Excursions, side trips, and other entertainments are being provided for. The meeting is to be held August 9–11, in Detroit, and headquarters will be at the Cadillac Hotel. Local health officials in Michigan are expected to be sent there by their local boards.

EDITORIAL ARTICLES.

THE SCOPE OF MEDICAL PRACTICE.

Medical practice as commonly understood and prosecuted pertains to the bodily organism and is limited to its boundaries. Pathological changes in tangible bodily tissues are presumptively the sites of the medical practitioner's attack. The causes, cure and prevention of diseases, in so far as they may be approached by dealing with separate individuals, are generally accepted as the objects of medical and surgical art. Within these narrow limits, it may be said, physicians are expected to be content and there is evidence to show that many of them are. Fortunately, however, the medical profession as a whole are unwilling to be unburdened of their larger and higher responsibilities. It is no new idea that a commonwealth, made secure from foes without and established within by just and impartial laws, to continue its onward progress may do so not by renewed wars and widened boundaries nor by a greater complexity of laws, but by the advancing physical, intellectual and moral welfare of her people. The warrior has his day with his great responsibilities. No less are those of the lawgiver who in turn receives the public favor. The industrial class also contributes largely to the general welfare and prosperity. Meanwhile the scientist, who has been benefitting the community individually, becomes a factor of public importance. As a nation and especially now in the existing breach of international brotherhood we see the dependence of our great enterprises upon the science and art of medicine. It is becoming evident to all that ideal medical practice must partake more largely of the preventive nature. It must deal not less with individuals but more with whole communities. Its scope will ultimately widen to the universe and enter into every occupation of man.

From another point of view Professor Herdman has reached similar conclusions. Vitality is affected by whatever concerns man in his physical, mental and moral life. The physician's work is necessarily concerned with the farthest reaching causes. Says he: "If we have assumed responsibility as guardians of man's vitality, we must protect it from every hostile assualt no matter what the direction of the approach." We must not stop at the narrow boundaries of man's body. We should participate more intimately in the control of the invisible as well as the material environment of human life. In the practice of preventive medicine we should, as the professor has well said, "form a partnership with the educator, and the guardians of the moral nature of man as well as the lawmaker, in the application of a more comprehensive and rational system of therapeutics for the maintenance and preservation of a higher order of life."

FALLOPIAN MENSTRUATION.

According to the accepted teaching of the physiology of menstruation the mucous membrane of the uterus alone is the site of periodic tissue changes, and is the only source of the menstrual discharges. It is known that the tubes become congested with the ovaries, but further participation than to convey the ova has not been heretofore included in their functions. It was with some surprise, therefore, that menstrual-like fluid was observed by Mr. Bond upon cross-section of a Fallopian tube. In order to determine whether this was purely physiological or due to disease of the tube or to regurgitation from the uterus he made numerous experiments on lower animals and close observations of women with healthy tubes. Specimens of menstrual fluid removed from the external os on the third day of the flow in a healthy woman and from tubes at these periods showed the same characteristics. He thus describes (*British Medical Journal*) the conditions of the tubal mucosa upon cross-section: "In addition to the mucus and blood which occupies the lumen, and is entangled amongst the villous processes, the tubal mucosa itself is altered; the fringe-like processes of membrane which cover the rugæ or villi are swollen and thickened in transverse diameter, and are infiltrated with leucocytes, which can be traced passing in from the muscular and submucous coats, up the villi, and between and among the ciliated epithelial cells. The epithelium itself is not shed or absent to any extent, but many cells show signs of mucoid degeneration. On the other hand, in the intermenstrual period the leucocytes are few in number, the villi are shrunken and consist only of an epithelial covering on the fibro-vascular pedicle, and no red blood corpuscles are found free in the lumen of the tubes. Thus increased blood, turgid vessels, and marked leucocytic infiltration, with escape of red and white blood-corpuscles, are the chief characteristics of the changes in the tubal mucosa at the uterine third during menstruation." He also so states, that "a somewhat prolonged inquiry in the case of the lower mamalia * * * has demonstrated the fact that in these cases the tubal mucosa as well as the uterine participates in the increased vascular engorgement, the increased leucocytosis, and the increased secretion, the three factors which accompany ovulation, and constitute the essential characteristics of the periods of sexual activity." As the author suggests, these observations may help to clarify our conceptions of tubal pregnancy, tubal colic and recurring attacks of local pelvic peritonitis.

ANNOTATIONS.

CONSERVATIVE SURGERY.

The origin of the application of conservatism as an attribute of medical and surgical practice is not clear. Neither does its use, even by members of the profession, appear to be thoroughly understood. Authoritatively defined, conservative treatment means that by which the vital powers are preserved and developed or the part treated is saved rather than removed or destroyed. Another sense in which it is often though improperly used is that in which the *laissez faire* principle predominates. In this latter sense there is practically no treatment and consequently no proper application of the term. Assuming that the first mentioned use of it is correct, our work as practitioners must be regarded as conservative and saving or destructive and meddlesome. From this point of view the ideal practice of medicine and surgery must be conservative. It may, however, be at the same time thorough and radical, provided that shall best conserve the vital forces, according to the best judgment of the experienced practitioner. Judged by this criterion, the various therapeutic agents and operative procedures now used have become admissible and preferable to those obsolete, and by the same measure the agencies now at our command will retain or lose their value as our increasing knowledge shall discover or devise other modes of treatment. LISTER's discovery necessitated a complete revision of the surgical art. Many amputations became unnecessary or gave way to resections and these frequently to minor methods of treatment. Similar changes were made in other branches. By the use of anesthesia also many otherwise most formidable operations have become conservative. At the present time revision is urgent in various parts of the field of gynecological surgery. The successes attained in the enucleation of uterine fibroids, the resection of partially diseased ovaries, the curetting and draining of moderately diseased tubes and other less mutilating methods of treatment, await only the stamp of professional opinion to demand their repetition and nothing else. Neglect, or failure to so operate, will ere long, we predict, be considered meddlesome surgery.

SUGAR IN NORMAL URINE.

THE constant presence of sugar in normal urine has long been a disputed point. The occurrence of a perceptible quantity of it in the urine following the ingestion of sweetmeats, champagne, and other articles containing great quantities of sugar, has been generally recognized. So, also, temporary glycosurias in nondiabetic individuals of exemplary habits have not been infrequent. On the other hand there have been failures to find even traces of it in some persons by the tests usually employed. Hence, the question as to the composition of normal urine. There appear to be two explanations of this discrepancy. In the first place the ordinarily used tests are not sufficiently accurate. Owing to certain possible fallacies the tests, known as Trommer's, Fehling's, and the picric acid test, are not absolutely reliable. Negative results have been obtained with these tests when the phenyl hydrazine and the fermentation tests have disclosed traces of sugar. In the second place there are individuals whose urine, even after the ingestion of great quantities of sugar, has contained no discoverable traces of it. On these grounds it has seemed not improbable to some, notably PROFESSOR SCHENK, that absolutely healthy organisms possibly consume all the sugar-producing foods taken into or formed within them. Regarding the presence of sugar as a sign of the incomplete combustion of food, its occurrence in small amounts may be considered to have no pathological significance. Indeed, its continued secretion for years has appeared to have no particular influence over the health. From all these observations it seems reasonable to conclude, that the presence of small quantities of sugar is not inconsistent with health or normal urine, and that it may or may not be present, at least in discoverable traces, according to the metabolism of the body.

CONTEMPORARY.

THE OUTLOOK.

[THE AMERICAN GYNECOLOGICAL AND OBSTETRICAL JOURNAL.]

IT is, we think, an undisputed fact that never in the history of medicine in this country have medical men been so driven to acquire a livelihood, has the dollar been so hard to earn and to collect, as in the past half decade. The cause of this has often and at many different times been rehearsed in this journal. The foundation cause is of course the entire lack of unity, the eccentric action —too thoughtless to be called policy—of the medical profession, which scatters its forces instead of garnering them, which encourages and fosters only the principle "that each man must work for himself alone" instead of "that all should work together for the common good." While this radical cause of weakness exists the outlook for permanent prosperity, for our rehabilitation in the respect and recognition both of the social and political world, is hopeless.

For there is no disguising the fact that this recognition and this respect which formerly was ours by right of membership in a learned profession universally throughout this country no longer exists except in the South and in our smaller towns. And even there the exception is merely an apparent one, because these men take their social position with them into their profession and recognition is still given to the man and not to the physician. The old days when the degree of Doctor of Medicine conferred also a patent of gentility, to which standard the recipient was forced to live up no matter what he was before, when this degree also presented opportunities of the highest potential influence in the State and in the framing of our laws, as the history of this country shows, have alas! passed away without hope of return. It has been shallowly said that the cause of change in our social and political status as a profession is that this country is becoming less "provincial"—a term which it would seem, unlike charity covereth a multitude of virtues—and that as it becomes more civilized it knows too much to submit to traditional respect for a badge of learning. This explanation is indeed a statement of a fact but it explains—nothing.

The real lesson of this fact is with our advance in "civilization" our national respect for all things not representative of *material* power—money value—has proportionally waned. And what power have we as a profession? Do we command the attention of legislators? Do we make a serious impression even upon the public when with combined voice we denounce a flagrant injustice or protest against an open public abuse? Why here in New York, where we are most numerous, are richest and best organized, with the most strenuous efforts of the County Medical Society, its aggressive protests in Albany and violent denunciations in the public press, have we succeeded in stopping the infamous hospital and dispensary abuse? It is doubtful if a single man, woman, or child, among the half million, who last year indulged in free medical and surgical treatment in the Borough of Manhattan has abstained from this luxury, for all the medical pother.

It is a sad fact that our fellow citizens have come to realize that we, as a body, have neither power nor influence even over our own members, and very naturally they feel that it is not worth while not to ignore us. They see that our societies have no disciplinary power which they dare to use, that every effort at united action for the common good is swallowed up in the struggle for personal and individual advantage, with the mutual suspicion engendered thereby, that these societies have degenerated largely into "debating societies for the furtherance, by mutual consent, of individual advertisement through the medical press." In a word, it is apparent to all that we have not the will to use power, if we had it, nor the power to use, had we the will. The medical press—the most potential influence obtainable—is not ours, but is in the hands of lay-publishers; *and the profession is indifferent!* Medical literature is not ours; it is also in the hands of laymen. Hospitals and dispensaries, the drug trade, the manufacture of our instruments—in all these things we have no part, exercise no supervision, possess no influence except in so far as the exigencies of trade or the good-will of *laymen* permit our individual participation. In this sphere which is naturally ours, where we should as a united profession command, whose powerful influences we should control, we exist on sufferance. *And the profession sees all this and is indifferent!* Let us take what consolation we can. And this one is still left us: If we continue to throw away our opportunities for power and influence, which nowadays in the battle of life are synonymous with money, we may console ourselves with the reflection that what we throw away will not be wasted. If we continue to be useless to ourselves and blind to our own advantage, we shall still be exploited as an easy medium for filling the pockets of wiser combinations of our fellow-citizens.

And this is our *Outlook!* While present conditions prevail among us, while the profession persists in considering itself and all its relations from the standpoint of the first person singular, this outlook must remain unchanged. It matters not very much whether the present war brings an apparent prosperity, temporary or more enduring, to this country with the freer spending of money; a few of us may have larger incomes for a time but the profession will not be prosperous. More free (!) institutions will be built, patients will still begrudge the doctor his fee and pay the butcher, the dressmaker, and the grocer first. And only a radical change of disposition in the profession itself can change the outlook of the profession.

MEDICAL NEWS.

TWO IMPORTANT SANITARY MEETINGS.

ACTIVE preparations are being made for the Quarter-Centennial Celebration of the establishment of the State Board of Health, and the thirteenth annual meeting of the Conference of State and Provincial Boards of Health of North America, to be held at Detroit August 9 to 11, 1898. Local health officials in Michigan are expected to be present and represent their local boards. In addition many prominent sanitarians are expected from other States and Canada. The citizens of Detroit are making special provision for their entertainment. River excursions and other side trips are being arranged. The headquarters of the convention will be the Cadillac.

The program of the Quarter-Centennial Celebration of the establishment of the State Board of Health, which occurs on the first day under the presidency of Honorable Frank Wells, of Lansing, is as follows:

Morning Session, at 9:30 A. M. (local time).

(1) Prayer.
(2) Music.
(3) Opening Address. By Honorable Frank Wells, President State Board of Health.
(4) Welcoming Address. By Honorable William C. Maybury, Mayor of Detroit.
(5) Welcoming Address. By Honorable Hazen S. Pingree, Governor of Michigan.
(6) A Quarter Century of Sanitary Work. By A. N. Bell, M. D., editor *The Sanitarian*, Brooklyn, New York.
(7) Public Health Work in Michigan. By A. R. Reynolds, M. D., Health Commissioner of Chicago.
(8) Sanitary Work Twenty-five Years Ago. By Professor R. C. Kedzie, M. D., Ex-President of the Michigan State Board of Health.

Afternoon Session, at 2:00 P. M. (local time).

(1) Music.
(2) Educational Work of the Michigan State Board of Health, including the Work of the State Laboratory of Hygiene. By Professor C. A. Lindsley, M. D., Dean of Medical Faculty of Yale College, President of American Public Health Association.
(3) Sanitary Conventions. By Benjamin Lee, M. D., President of National Conference of State Boards of Health.
(4) Annual Conferences of Local Health Officers. By C. O. Probst, M. D., Secretary American Public Health Association.
(5) Music.
(6) State Work for the Restriction and Prevention of Diseases. By John S Fulton, M. D., Secretary Maryland State Board of Health.
(7) Municipal Restriction of Diseases. By Ernest Wende, M. D., Health Commissioner of Buffalo.
(8) Sanitation of the Future. By Professor Victor C. Vaughan, Director Michigan State Laboratory of Hygiene.

Evening Session, at 8:00 P. M. (local time).

(1) Music.
(2) Short addresses (five minutes each). By ten eminent sanitarians, until 9:00 P. M.
(3) Reception from 9:00 until 10:00 P. M. By members of Michigan Board and distinguished visitors.
(4) Refreshments, to commence at 10:00 P. M., following which after-dinner speeches may be made.

* * *

The delegates of the State and Provincial Boards of Health will convene under the presidency of Doctor Benjamin Lee, of Philadelphia. The work of this organization will be divided as follows:

The first day, August 9, will be given to meeting with the Michigan Quarter-Centennial Celebration, in effecting organization and hearing reports of committees.

The second day, August 10, will be devoted to discussing, What are the Principal Lines of Work of Your Board? How is Each Accomplished? What Modification, if any, does the Experience in your State Suggest?

The third day, August 11, will be given to discussion of the Various Phases Relating to the Restriction and Prevention of Tuberculosis. The phases proposed are:

(1) Etiology.
(2) Morbid Anatomy.
(3) Statistics.
(4) Identity of Tuberculosis in Man and Animals and its Wide Distribution Among the Latter; also its Communication to Man Through Food.
(5) Economic Phases.
(6) How May Tuberculosis be Prevented?

A program with the names of the readers of papers within the domain of the above subjects, and the names of those who will be specially prepared to discuss said papers, will soon be ready for distribution. General discussion of all papers will follow the specially prepared discussions.

MICHIGAN HEALTH REPORT FOR JUNE.

THE diseases arranged in order of greatest prevalence in this month were: Rheumatism, neuralgia, bronchitis, tonsillitis, influenza, diarrhea, consumption—pulmonary, inflammation of kidney, intermittent fever, remittent fever, pleuritis, measles, erysipelas, pneumonia, inflammation of bowels, cholera morbus, cholera infantum, whooping-cough, dysentery, typhoid fever—enteric and typho-malarial, scarlet fever, inflammation of brain, cerebro-spinal meningitis, puerperal fever, diphtheria, membranous croup, small-pox. For the month of June, 1898, compared with the preceding month, diarrhea, remittent fever and measles increased, and pneumonia, influenza and pleuritis decreased in area of prevalence. For the month of June, 1898, compared with the average for June in the twelve years, 1886-1897, diphtheria, scarlet fever, whooping-cough, intermittent fever, consumption, cholera morbus, dysentery, erysipelas, remittent fever, cholera infantum and inflammation of bowels were less prevalent. Including reports by regular observers and others, consumption was reported present in Michigan in the month of June, 1898, at one hundred and seventy-eight places; measles at one hundred and seven places; diphtheria at forty-seven places; scarlet fever at forty-four places; whooping-cough at thirty-nine places; and typhoid fever at thirty-seven places. Reports from all sources show consumption reported at fourteen places more; measles at twelve places less; diphtheria at thirteen places more; scarlet fever at seven places less; whooping-cough at six places more, and typhoid fever at three places less, in the month of June, 1898, than in the preceding month.

THE UPPER PENINSULA MEDICAL SOCIETY.

THE third annual meeting of this prosperous organization occurred at Iron Mountain, June 29, the president, Doctor William T. Carpenter, in the chair. This was the largest gathering in the history of the society, many new names being added to its roster on this occasion. It is noteworthy that about sixty per cent. of all Upper Peninsula physicians are affiliated with this new medical guild. Papers read at this meeting will be published in future issues of *The Physician and Surgeon.* Doctor Beverley Drake Harison, of Sault Sainte Marie, is the newly elected president; Doctor C. H. Long, of Escanaba, was elevated to the vicepresidency, and Doctor S. E. Cruse, of Iron Mountain, will perform the duties of secretary and treasurer.

MINOR INTELLIGENCE.

THE American Climatological Association will meet in Bethlehem, New Hampshire, August 31 and September 1, 1898. Doctor Guy Hinsdale, of Philadelphia, is secretary.

THE Ancient Order of Hibernians, of Brooklyn, New York, has inaugurated a movement which contemplates the founding of an Irish hospital in that borough. A fund of $100,000 is desired for the project, and the various Irish societies of the city will be enlisted in the work of raising this sum by contribution and entertainment.

THE American Association of Genito-Urinary Surgeons elected the following officers at its recent West Point meeting: President, Doctor James Bell, of Montreal; vicepresident, Doctor Samuel Alexander, of New York; secretary and treasurer, Doctor William K. Otis, of New York. The next meeting of this organization will be held at Niagara Falls in May next.

THE forthcoming meeting of the Canadian Medical Association will be held in Quebec on August 16, 17 and 18, under the presidency of Doctor J. M. Beausoleil. The membership list of this organization contains about six hundred names, all the prominent physicians of the Dominion being registered. Present indications bespeak a large attendance. The general secretary is Doctor Starr, of Toronto.

A NEW tuberculin has been announced from France. Doctors F. Raymond and P. Ravant lately reported to the Society of Biology of Paris, that they had cultivated in bouillon containing glucose and glycerine the bacilli of the tuberculosis of fish, discovered by Dubard, and on filtering the cultures obtained a toxin resembling the product derived from the bacilli of tuberculosis in man as regards odor and biological reactions.

THE medical profession in Germany was augmented by 1254 new members during the academic year of 1896–97. The several states of the German Empire contributed as follows to yield this number: Prussia, 556; Bavaria, 388; Saxony, 115; Baden, 88; Alsace-Lorraine, 43; Thuringian States, 28; Wurtemburg, 19; Hesse, 16. During 1890–91 the number of admissions in Germany was 1570, the largest on record in that country.

THE employment of individual glass jars for the retention of milk delivere by peddlers has been prohibited by milk inspectors in several cities on th ground that they are dangerous to public health. The objection is advance that their sterilization is impossible, as water of requisitive temperature t destroy germs would break the jars. Safety is only insured by the use of receptacles that can be subjected to steam heat. The glass jar has been tabooed a the West Point Military Academy, and should be generally abolished, especiall the abominable pasteboard coverlid.

Doctor A. W. Abbott, of Minneopolis, Minnesota, has introduced a new self-retaining vaginal speculum that is serviceable in all gynecological positions. When this instrument is employed no assistants are required to perform curettage, trachelorrhaphy, vesico-vaginal operations, and apply uterine and vaginal dressings. It consists of a large and a small blade which are connected by an adjustable bar, the requisite divergence of the blades being fixed by two screws.

Doctor Crova, of Brooklyn, New York, recently undertook the task of transforming a negro into a white man, and is now posing as defendant in a suit instituted to recover $10,000 damages. A coal-black Afro-American engaged the doctor to remove the pigment from the rete mucosum of the entire surface of his body. The experiment proved a dismal failure and the Ethiopian applied to the courts for a panacea to soothe personal injuries sustained through the efforts of the Aesculapian to redeem his promise.

The Medico-Psychological Society of Quebec is a newly founded Canadian organization, the object of which is the study of mental disorders. The members of this guild consist of attachés of the various hopitals for the insane throughout the province, twenty of whom were present at its inception. The following officers were elected: President, Doctor Arthur Vallée, of the Quebec Insane Asylum; vicepresident, Doctor T. J. W. Burgess, of the Protestant Hospital for Insane; secretary, Doctor E. P. Chagnon, of Longue Pointe.

The Washtenaw County (Michigan) Medical Society convened in annual session at Ypsilanti, Friday, July 8. Reports of cases were rendered by Doctors William C. Stevens, of Detroit, and Edward Batwell, of Ypsilanti. The following officers were elected for the ensuing year: President, Doctor G. M. Hull, of Ypsilanti; vicepresident, Doctor J. F. Breakey, of Ann Arbor; secretary, Doctor Ellen B. Murray, of Ypsilanti; treasurer, Doctor J. A. Wessinger, of Ann Arbor; board of censors, Doctors E. Batwell, F. Carrow and D. P. McLachlan.

Professor Florence, of Lyons, has announced a new test for semen. As the result of a series of experiments this investigator has discovered that the addition of a strong aqueous solution of iodine (1.65 part of iodine 2.54 parts of potassium iodide, and enough distilled water to make 30 parts) to human semen has the effect of immediately causing the formation of dusky-brown microscopic crystals, rhombic and needle-shaped. Although not absolutely reliable this reaction is likely to achieve medico-legal consideration as a corroborative test.

Doctor C. T. Newkirk, of Bay City, Michigan, recently received the appointment of surgeon in the Spanish-American war and is now undoubtedly fighting yellow fever in the vicinity of Santiago. The doctor is a yellow-fewer immume. He passed through an epidemic of that disease while in Brazil, having practiced in that country during the Mello rebellion. Doctor Schuyler C. Graves, of Grand Rapids, was recently appointed brigade surgeon, and has since reported for duty in the South. The Michigan profession is supplying excellent material for Uncle Sam's service.

Major Charles B. Nancrede, brigade surgeon, is home from Cuba on a furlough. He was detailed to accompany wounded soldiers from the front to the general hospital at Norfolk, Virginia, and will spend thirty days recuperating in Michigan. The doctor has recently been winning laurels from the forum as well as from the field. At the late commencement exercises of Jefferson Medical College the authorities of that institution conferred the degree of LL.D. on him. Major Victor C. Vaughan, who succeeded Doctor Nancrede as regimental surgeon, was recently stricken with yellow fever in Cuba and removed to the isolation hospital. He has been granted leave of abscence, and is now enroute for home. Doctor H. D. Thomason, of Albion, Michigan, will immediately report before Santiago to accept the surgeoncy of the Thirty-third.

AN electric circular saw now renders service in lieu of the knife in all amputations performed at the Boston Emergency Hospital. Recourse to this agency obviates the necessity of an anesthetic as the rapidity of its action renders the operation painless and greatly depreciates shock. Ligatures are not required, and the house surgeon claims that patients treated by this method fare better than those subjected to the older procedure.

CÉOURWONT has announced a peculiar form of tuberculosis. It is characterized by the absence of tubercle bacilli and the presence of all the other pathological conditions. A streptobacillus, staining in gentian-violet and carbolfuchsin, but not retaining Gram's stain, was found in the sputum. This microorganism was devoid of motility, but the pure culture reproduced miliary tubercle, caseating abscesses and the original fluid.

THE clever achievement of a San Francisco bacteriologist having isolated the tuberculosis toxin by the following method is announced in the daily press: "The pure culture is washed in water acidulated with hydrochloric acid. It is then washed again in pure distilled alcohol and then filtered. The filtrate is then distilled, and the residue dissolved in water and precipitated with phosphomolybdic acid. Again the product is filtered and the residue broken up with baryta water. The barium is then percipitated with carbon dioxide. The filtrate is then evaporated and the residue exhausted with alcohol, which gives the alkaloid in a comparitively pure state."

PRECAUTIONARY measures against the contraction of tuberculosis were taken at the International Congress of Hygiene and Dermography which convened at Madrid during Easter week, the following resolution introduced by Doctor Pablo Lozano, having been adopted: "Inasmuch as tuberculosis is easily transmitted by vaccination when it is done directly from the calf, the International Council of Hygiene and Dermography asks that in all the nations represented at the meeting the practice should be adopted of using in official vaccination stations only the lymph of calves which have been examined postmortem and pronounced to be free from tuberculosis."

THE Associated Physicians of Long Island is the name of a medical guild recently founded by upward of sixty practitioners from various sections of the island, who assembled at Garden City. Eligibility to membership was restricted to good standing in some of the county societies of the island. When the organization had been perfected several papers were read and discussed, after which the members indulged in an informal repast. Meetings will be held in June, October and January, and the following officers were elected to assume charge of affairs: President, Doctor William Browning, of Kings; first vicepresident, Doctor Louis N. Lanehart, of Queens; second vicepresident, Doctor William A. Hulse, of Suffolk; third vicepresident, Doctor Charles Jewett, of Kings; secretary, Doctor Robert J. Morrison, of Brooklyn; treasurer, Doctor Arthur H. Terry, of Patchogue; historian, Doctor Joseph H. Hunt, of Kings.

THE question of prefessional secrecy was recently involved in a suit instituted in a New York court to recover $2,500 damages from the village of Oneida for injuries sustained by a fall due to a defective sidewalk, the plaintiff charging that she had sustained a hernia and prolapsus uteri. The jury rendered a verdict against the village and the case was appealed. In the higher court the plai tiff's physician was subpenaed to testify that the hernia obtained prior to th accident, the appeal being based upon the alleged improper exclusion of th evidence. The chief judge settled the matter in favor of the plaintiff by deci ing that "a physician who is called upon to treat a patient at childbirth, a while doing so, and as a necessary incident of his investigations to enable hi to act in that capacity, discovers a physical ailment in his patient, cannot premitted to testify with respect to such ailment, nothwithstanding it was matter about which he was not consulted and for which he did not prescribe.

Hawaii has a Red Cross Society. Its immediate purpose will be to minister to sick American troops passing through Honolulu enroute to Manila, or whom it may be necessary to land there on the return trip because of illness. The organization is vested with funds, buildings, and an efficient corps of nurses. The following officers are in charge: President, Mrs. Harold M. Sewall; first vicepresident, Mrs. S. B. Dole; second vicepresident, Princess Kaiulani; secretary, Mrs. F. R. Day; treasurer, Mrs. P. C. Jones; executive committee, Mrs. W. G. Irwin, Mrs. W. F. Allen, Mrs. C. B. Cooper, Mrs. M. C. Widdifield and Mrs. C. M. Hyde.

The Mississippi Valley Medical Association will hold its twenty-fourth annual meeting at Nashville, Tennessee, October 11–14, under the presidency of Doctor John Young Brown, of Saint Louis, Missouri. The annual addresses will be delivered by Doctor James T. Whittaker, of Cincinnati, and Doctor George Ben Johnson, of Richmond, Virginia, the former discussing Medicine, and the latter Surgery. Titles of papers to be read at this meeting should be sent to the secretary, Doctor Henry E. Tuley, 111 West Kentucky street, Louisville, Kentucky. Doctor Duncan Eve is chairman of the committee of arrangements, and under his leadership the local profession are planning to exceed the munificent hospitality extented to the visiting members of this organization at its gathering in Louisville last year.

The constitutionality of the law creating the Indiana board of medical registration has been affirmed. Judge Howard, of South Bend, a member of the supreme court of the Hoosier state, has embodied his opinion of the legislative edict in the following language: "Whether the law is a wise one is not for the courts to say. It may be that as men are free to choose those who shall minister to the needs of the soul, so also they should be free to choose those who shall minister to the ills of the body. It may be that such laws repress independent investigation, and so retard the progress of medicine. It may be that many of the most valuable medical discoveries were made in spite of the prejudice and protests of men learned in the old and time-tested lore of their day. It may be, finally, that such laws are out of harmony with free institutions, according to which each citizen may pursue his own work, his own studies, his own occupation, in so far as he does not trench on the equal rights of his fellows and the welfare of the community in which he lives. These are, however, questions for the legislature, and, so long as the act is not clearly in violation of any provision of the constitution, it cannot be held invalid." Judge Howard formerly resided at Ann Arbor, Michigan, and prior to his accession to the supreme bench of Indiana, was professor of literature, mathematics and astronomy in Notre Dame University.

RECENT PUBLICATIONS.

REVIEWS.

THE DETERMINATION OF SEX.*

Perhaps no book of recent times has been awaited with more impatience and perhaps curiosity by the medical profession than this. The announcement made a few months ago of the discovery of the determination of sex, more widely published by various comments and premature criticisms, served only to awaken renewed interest in this hoary subject. Within its covers the author has collected the more important literature of the subject even from the earliest writings and presented it in a most readable form. Without either commending or criticising the author's theory of the determination of sex by reference to the food combustion within the mother, the statements he makes, the explanations he gives, and the examples and experiments he offers should and will in time receive serious consideration. The translation has been well made. The style is clear and effective.

*By Leopold Schenk, Professor at the Imperial and Royal University, and Director of the Embryological Institue in Vienna. Authorized translation. The Werner Company, Akron, Ohio, 1898.

MILITARY HYGIENE.*

This work is a syllabus of lectures delivered to the class of 1889 at the Infantry and Cavalry School. The subject is most concisely treated under the following heads: Selection of Soldiers; Military Clothing; Food; Habitations; Camps and Marches; Sewers and Waste; Water; Preventable Diseases and Asepsis for Wounds. The present edition is the result of careful revision and contains also an essay upon The Care of Troops in the Field, especially in warm climates. The issue of the book at the present time is most apropos. The high standing of the author is sufficient commendation of its character.

*By Alfred A. Woodhull, LL. D. (Prin.), Lieutenant-Colonel in the Medical Department, United States Army. New edition, revised and augmented. New York: John Wiley & Sons, 1898.

HAY FEVER AND ITS SUCCESSFUL TREATMENT.*

This little book is a clear and complete exposition of what is known today about hay fever. The author has given due consideration to the history, the various causes, pathology, diagnosis and prognosis of the disease, but the chief value of the work lies in the succinct statement of the simple method of successful treatment. There is appended also a complete bibliography of the subject from 1565 to the present time.

*By W. C. Hollopeter, A. M., M. D., Clinical Professor of Pediatrics in the Medico-Chirurgical College of Philadelphia; Physician to the Methodist Episcopal Hospital; Pediatrist to the Medico-Chirurgical Hospital, and to Saint Joseph's Hospital; Fellow of the American Academy of Medicine, et cetera. Philadelphia: P. Blakiston's Son & Company, 1898. Price $1.00 net.

DISEASES OF THE SKIN.*

Despite the many forerunners which this little book has had, it is certain to win for itself a place. It covers the entire field of Dermatology in a brief but comprehensive manner. The matter is well classified, the text clear and admirably supplemented by numerous illustrations. It is one of the best compends we have seen.

*By J. F. Schamberg, A. B., M. D., Associate in Skin Diseases, Philadelphia Polyclinic; Dermatologist to the Union Mission Hospital; Quiz-Master in Dermatology, Association of Quiz-Masters, University of Pennsylvania. With 99 illustrations. Philadelphia: P. Blakiston's Son & Company, 1898.

REFERENCES.

BOOKS RECEIVED.

"Modern Surgery"—DaCosta; "Physical Diagnosis"—Tyson; "The Office Treatment of Hemorrhoids, Fistula, et cetera"—Kelsey; "Syphilis and Venereal Diseases"—Mracek; "Atlas and Epitome of Operative Surgery"—Zuckerkandle; "Conservative Gynecology and Electro-Therapeutics"—Massey.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

SLEEPLESSNESS: ITS CAUSE AND TREATMENT.*

By ELMORE S. PETTYJOHN, M. D., ALMA, MICHIGAN.
MEDICAL SUPERINTENDENT OF "THE ALMA."

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE study of physiological sleep and pathological sleeplessness is surrounded by great difficulties. No single method of study will give results, so the conditions must be considered from an experimental and clinical standpoint.

"Natural sleep is that condition of physiological repose in which the molecular movements of the brain are no longer projected upon the field of consciousness." Sleep is a condition universally observed in all healthy animals. Its onset may be delayed for a time by the will, but the need of rest finally overcomes all opposition. The sailor sleeps on "the high and giddy mast" and men have fallen asleep oppressed by exhaustion during the roar of a bombardment.

First the power of volition ceases, then the logical association of ideas ends, reason disappears and judgement is suspended. The respiration is diminished about one-fourth and is prolonged; the heart beats less frequently, though somewhat due to the recumbent position; the temperature is somewhat reduced; the functions of the glands and secretory organs are reduced; the tears dry up; the cornea is less moist; the mouth receives less saliva and soon dries when open; the quantity of urine is lessened; the processes of nutrition are reduced and the sleeper knows nothing of the external world nor of his own existence.

The invasion of sleep is usually progressive; certain structures may be fast asleep while others are active. The special senses are overcome before the muscular apparatus yields. The eyes cease to see before the eyelids droop; the senses of touch and taste next fail, while the senses of smell and hearing are more persistent. An odor will keep one awake or awaken one from sound slumber. Persons have been awakened by the sound of their own snoring. There is more exposure of effective surface of the nostril and eardrum. A blind person will often sleep quickly when the ears are stopped.

That the depth of sleep is variable, everyone knows. A German physiologist, KOHLSCHUTTER, has arranged a gong with a pendulum attachment and noted the length of the stroke which produced a sound sufficiently loud to awaken the patient. In this way the different degrees of the intensity of awakening noise could be calculated and the depth of sleep estimated, which is as follows: During the first hour the depth of sleep increases rapidly at the end of which time it is deepest. During the next half hour it dimishes as rapidly as it increased the first half hour. During the next hour it still further diminishes almost as rapidly as it increased the first half hour. The remaining ten half hours are occupied by comparatively light and gradually diminshing slumber until the vanish of the expiration of eight hours. (It is the deepest during the early part of night.) During the lightest sleep of the last half hour our dreams grave and gay, take place as recorded by our best observers and those who study their own dream life.

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* Read before the MICHIGAN STATE MEDICAL SOCIETY at the Detroit meeting.

Tiredness of every kind is the most patent cause of this twin brother of syncope, sleep. The rest following activity is the law of Nature. While the heart and muscles of respiration seem not to sleep, they enjoy repose in regular alternation with activity, though the interval is short. The reaction from severe prolonged pain becomes a cause of sleep.

The control of the cerebral circulation by the vasomotor system is one of the causes of both sleep and sleeplessness. We know that when functional activity in any organ is lessened this mechanism reduces the blood supply to that part, but back of the blood current changes are changes in the molecular structures of the brain itself. As mentioned, sleep is the natural repose of a healthy brain and a healthy body. Sleeplessness must therefore be caused by a pathological condition of the organs of the body; or the perversion of their functions due to their diminished vitality from peripheral disturbance; or a morbid condition of the nerves themselves of which the brain is the center; or from the uniting of two or more of these abnormal conditions. Sleeplessness is therefore a symptom of a pathological condition, as pain is that of the nerve, or temperature the indication of inflammation or a disturbance of the heat-forming centers. The cause is multiple, never single. Owing to the reluctance of recognizing this symptom as the expression of a possible serious condition the habit is usually fixed by the time the physician is asked to prescribe.

The presence of light prevents sleep or renders it less profound and unrefreshing to those accustomed to sleeping in the dark. Even though longer hours are occupied during the day than at night the patient suffers from want of natural sleep, as in the case of night operators, watchmen and clerks, who often by this work permanently undermine their health. The lightning would awaken the sleeper if the thunder did not do so.

The various opias and phorias with the abnormal condition of the ocular muscles that need to be cut or cultivated, or any visual defect, have their part in the category of causation. While these mechanical defects have their place in the consideration and should be removed, I am persuaded that the eye symptoms are more often the *result* of the *exhausted ill-fed* or *poisoned brain*, owing to the central location of the optic tract, than of the perversion of the exalted mechanism of the eye itself.

Odors disturb sleep. The southeast part of Chicago has been complaining recently of *sleep* disturbance on account of the smell from the stock yards. The smell of smoke will often awaken one and is frequently the first alarm of fire.

A change of temperature will disturb or prevent sleep. If the air be too warm and so moist as to inhibit exhalation and evaporation from the skin, the sleeper becomes irritable and restless, due to excitation of the brain.

Cold, by contracting the cutaneous vessels and impeding circulation in them prevents carbonic acid exhalation, and since the liberation of heat in the tissues owing to the diminished combustion, is only about one-third the amount while asleep as in the equal period of waking, the discomfort produces wakefulness. Even local cold as of the feet or shoulders, excites the brain and awakens the sleeper. An empty stomach is one of the causes of sleeplessness and one I believe to be quite frequent.

The local irritation of insects, even *one* mosquito, or the conditions of the skin from its various diseases; or dryness as in jaundice, kidney disease and some forms of nervous disease, as neuralgia and neuritis by transmission to the brain of these painful impressions, awakens the sleeper and prevents rest.

The great sympathetic with the pneumogastric carrying pain impressions to the brain's consciousness, conspire to produce sleeplessness. Gaseous distension of the bowels or an overloaded colon, or ascites, diminishing the mesenteric circulation by pressure (which circulation is the relief valve of the brain) like the equalizing of the water level in two connecting tanks; or colic, or the inflammatory thoracic, abdominal, or pelvic diseases, by transmitting their pain messages through the sympathetic system to the brain, all tend to prevent sleep.

A brain gorged with blood from excitement causes sleeplessness, which functional condition if prolonged tends to produce permanent organic change in the cerebral cells. When the nerve substance is thus changed the nutrition of the entire body decreases and anemia and tissue starvation ensues.

Alcohol, tea, coffee and other chemical substances stimulate the molecular activity of the brain and prevent sleep. Their effects continue several hours or until they are neutralized, or are carried away in the blood current, or have expended their energy.

TREATMENT.

There is probably no other one physical condition the physician is so unable to combat successfully as insomnia. In general, the removal of every source of physical irritation and the restoration of the physiological order of life with subsequent repair of all the tissues, is the end sought in treatment. That is, a man must be perfectly well to be able to sleep well.

Since the cause of sleeplessness varies constantly in each different disease and in the same disease in different individuals, each case is *one* by itself and needs experienced medical treatment. Brain-workers seem the greatest sufferers from sleeplessness owing no doubt to the constant overuse of nervous energy. Nerve force expenditure is not easily measured. Excitement often takes the place of real nerve energy and the patient is unconscious of his peril until exhaustion occurs.

PASSIVE TREATMENT.—With what I term the passive treatment and remedies, whose name is legion, we are all familiar and I shall only mention a few that have been found most successful.

The application of heat, just previously to the time for sleep in the form of a pack or a warm bath has a most tranquilizing effect; either a full or a foot bath with sea salt dissolved, the temperature agreeably comfortable. A gentle sponging followed by light friction is used when the patient is feeble. This is applicable in the daytime and evening.

Massage combined with friction, rendering the circulation of the blood and lymph more equable as well as more active in the muscles and skin, and modifying the electrical conditions of the whole body, relieves irritation, fatigue and restlessness and produces salutary effects.

Electricity, static, galvanic or faradic, applied generally, produces in some cases a marked if temporary feeling of sleeplessness. The static breeze, galvanization of cervical sympathetic, general faradization and the hydroelectric bath, have each been found helpful in selected cases. There are some patients made worse by any form of electricity and this remedy should never be used in a routine way, but after a careful study of the case.

Food administration is a very important treatment. The patient should eat even without an appetite. Sick, restless patients are not expected to have the usual relish for food. A generous wholesome mixed diet of meats, vegetables, milk, eggs, bread and butter, fruit, with the relishes three to six times a day should be prescribed. It may be necessary to assist the patient by stomach and intestinal digestants, but *the food should be taken.* A luncheon on retiring, a pint of milk with a little brandy will render better aid in many cases, than thirty grains of chloral and bromide combined.

The use of trional I have found most effectual when the patient is unable to sleep soon after retiring. Ten to fifteen grains are administered in a glass of hot milk and repeated in a half hour on the belief and from the experience of three years, that the effects begin within an hour after administration. If the patient is able to fall asleep but awakens frequently, or after a few hours rest, and finds it difficult to sleep, sulfonal, ten to twenty grains, is administered in the same manner at 5 o'clock in the afternoon and again at bedtime. Its effects last often during the next day and night and it should be given only alternative days. A simple aqueous solution of sodium or lithium bromide, ten to fifteen grains, given three times, half hour apart, before retiring, inhibits functional energy of the protoplasmic constituents of the nerve centers, the blood-vessels contract from a lessened blood supply and sleep follows. In cases of muscular agitation the fluid extract of conium added to the bromide aids in reducing the cerebral excitement.

In the Active Treatment the patient must be a willing and ready coadjutor and with his persistent methodic help sleep may be enjoyed with the administration of a few remedies. An hour or more of preparation should be made. Sleep should be planned for as other necessaries.

Absence of conversation, discussion or even amusement that uses brain force, should be insisted upon. The patient should have a regularly recurrent periodic rest-cure regime, for an hour or more daily, before he expects sleep. He should do no consecutive thinking and not follow out a train of thought. The concentration of thought on a light or even dull story, or, even as the monks of old, by counting a rosary but breaking the number are helpful. So far as possible the Will should turn the ideas out of doors, and lock the vacuum against them.

Haste and vigor should be avoided. Let every motion be calm, gentle, easy, deliberate and slow. Quiet should reign. The comfortable, clean, downy bed is ready, the patient is ready for the bed. Rest and sleep should be the sole business of the hours to come. Insist upon the recumbent posture (many patients *think* they cannot sleep because they have not and do not give themselves the opportunity) with removal of clothing, and then assist upon complete relaxation of body, mind and spirit. Breathing should be full, free and deep, slow and gentle. Ventilate, darken the room and give your patient the following directions: To lie upon his right side with his head comfortably placed upon the pillow (one pillow only and no bolster), having the neck straight, so that respiration may not be impeded. The lips are then to be closed and a full inspiration taken, the breathing being exclusively through the nostrils. After the full inspiration has been taken, the lungs are to be left to their own action. Attention must now be fixed upon the respiration. The person must imagine that he sees the breath passing from his nostrils in a continuous stream, and at the instant he brings his mind to conceive this, apart from all other ideas, consciousness ought to leave him. If this method does not at once succeed, it is to be persevered in, and if conscientiously carried out is likely to bring the desired result. To lie on the right side gives the heart freer action than when the body rests on the left. To breathe through the nostrils, although scientifically approved, is comparatively seldom adopted by civilized people in the daytime. With mouth-breathers the probability is that no change takes place in this particular during the hours of repose, and if they snore it is from their own bad habit as snoring can be stopped by tieing up the chin. Insist upon the persistent repetition of a definite procedure *every evening, and even in the daytime after th midday meal.*

No one can tell how much sleep he has lost, for no one knows how much he need Therefore, each one must have as much as he can get and if he become exhausted, *he must make up what he has lost by increasing the number of hours daily* The old division of eight hours sleep, eight recreation, and eight work, shoul be applicable now and if rigidly followed so many people would not be seekin remedies for sleeplessness.

MAY A RAPID PULSE IN APPENDICITIS CONTRAINDICATE OPERATION?*

By FRITZ MAASS, M. D., Detroit, Michigan.

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Three years ago I read a paper on appendicitis before the Mississippi Valley Medical Association at the meeting held in Detroit. The cases collected were from different sources and gave a mortality of thirteen per cent. if operated upon with a pulse less than 120, and a mortality of forty per cent. if operated upon with pulse over 120. I. McCosh and Torbes Hawks, in the *American Journal of the Medical Sciences*, May, 1897, publish sixty-nine cases, and state that they lost every case operated upon with high temperature and a pulse over 140. That not the high temperature but the rapid pulse is the more dangerous symptom in surgical cases is probably proven by the mortality being twenty-three per cent. with a temperature below 102°, and twenty-two per cent. with a temperature above 102°, as stated in my paper mentioned before. It may be that not all surgeons have bad results with rapid pulse, but the majority dread this symptom as the most dangerous one. Hence, nothing seems to be more natural than to urge that early operation should be done immediately when the pulse shows the tendency to climb. This advice has been and is daily given to the profession most emphatically by surgeons publishing large favorable statistics, the result of early operation, and reporting unlucky cases in detail if operation seems to have been delayed too long. The very fact that such advice is given again and again indicates that the profession must have reasons not to accept the method of early operation. As an answer to the surgical demands, large medical statistics are published giving even better results than the majority of surgical statistics. Therefore the time seems to be far off when the surgeon will not be confronted any more with well developed dangerous symptoms in appendicitis. Dealing with them the question how a future recurrence may be prevented has not any weight, but it lies before us as the only duty to save the patient's life from the present attack. The necessary measures seem to be clearly outlined. Under really dangerous circumstances operation always gives the best results. But every physician who knows the results of surgery alluded to above and has had similar experiences as I am about to report in this paper, must necessarily become undecided in his opinion about the advisability of operation in the presence of a pulse over 140.

Mr. F., twenty years of age, has been in good health formerly. Nine days before his illness he fainted, coming home after a long ride in his buggy. The following week he felt perfectly well except being constipated. A few cathartic pills finally produced several free passages. Soon after this, two days and one-half before I saw him, he suddenly vomited and felt a severe pain in the region of the sigmoid flexure. Doctors Sanderson and Samson, of Windsor, treated the patient and gave morphia and opium, but succeeded in only partly relieving him. The morning of the third day the pain located more in the region of the appendix, so that the suspected diagnosis became sure. The pulse had been up to date 140 and the temperature 101°-102°. In the afternoon of the third day the pain subsided and the patient had a good sleep. But the pulse continued to grow weaker and more rapid. In the evening of the third day I saw the patient, in consultation with Doctor Samson (November 17, 1896).

The patient looked very weak and low, but did not in any way show signs of stupor as from severe infection. He seemed to take interest in everything about him. Abdomen somewhat distended, slightly tender in the upper part on both sides, a little more sensitive in the region of the sigmoid flexure and very tender over the cecum. Distinct muscular rigidity and slight dullness on percussion at the last mentioned place. No dullness on the left side. No passage from the bowels since the pain started three days ago, and no vomiting. Great thirst, but nausea permitted him only to take a small quantity of water at a time. Tongue moist. The pulse irregular, from time to time one stroke missing, exceedingly weak, ranging between 140 and 150 a minute. The feeble circulation was also indicated by the reddish blue color of the skin over the right lower abdomen where warm cataplasmata had been applied. It looked very much like the usual stains on the back of dead bodies. On the forearm, at the place of the morphia injection, a large blister had formed.

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*Read before the Michigan State Medical Society, at the Detroit meeting.

If these conditions were due to free absorption of toxins, either from a large circumscribed abscess or from general peritonitis, immediate operation would have been advisable. As the patient was a lean person and without much distention, I thought that a large circumscribed abscess would have shown more distinctly. There was more likelihood of its being general peritonitis. But the entirely free sensorium, the only slight and localized dullness in a hardly distended abdomen, and the wet tongue, outweighed the diagnostic significance of the rapid and weak pulse and the slight general tenderness. It seemed to me that the patient was in a state of collapse after the unusually severe and prolonged initial pain of the disease. There was prospect for slow improvement, as the probable cause of the collapse, painful cramps of the intestines, had subsided. For these reasons I decided not to operate, and could justify my course the more as general peritonitis following appendicitis gives very little hope for successful laparotomy. Certainly the outlook for recovery without operation was not very bright. I expected the formation of an abscess, which would have had to be opened after the patient's recovery from the collapse. Such localized accumulations of pus, if opened in time and with enough skill to avoid the general peritoneal cavity, give very good results.

The following night, between the third and fourth day, the patient was very restless. On the morning of the fourth day (November 18) he made a better impression. Tongue wet, distention, dullness and tenderness about the same as the day before, no vomiting, no stool, pulse 130. Opium had been continued to prevent intestinal cramps. Nothing was given except water, weak tea and weak coffee. The next night, between the fourth and fifth day, the patient was worse than ever before. DOCTOR SAMSOM found him very low late in the evening, and was with him nearly all night. The pulse ranged between 150 and 160, and sometimes was barely noticeable in the radialis. The patient vomited dark brownish fluid, and in the morning, in spite of opium, a large watery passage from the bowels occurred.

I saw him again in the forenoon of the fifth day (November 19) at 11 o'clock. The tongue was dry, pulse 120, temperature 102°, respiration 36 and apparently easier than before. The abdomen, which had been more distended during the night, was flattened and everywhere soft. The reddish blue stains over the cecum were more pale, the blister on the arm had dried. The tenderness was confined to the cecal region. The never very marked dullness here had, in spite of less distention, pretty nearly disappeared. The patient had appetite to eat, but was given nothing but water and bouillon.

At this time the general condition of the patient was certainly more favorable for an operation than ever before. But the local examination of the abdomen revealed no signs of either an abscess or the tendency to spreading peritonitis. I thought it safe to wait until a well defined abscess would have formed. Contrary to what I expected, my services were not wanted again. The patient made, under the care of DOCTOR SAMSON, an uninterrupted recovery in about four weeks, and has been well since, about a year and a half.

I first looked upon this case as a curiosity which I would never see again. But a very long time did not elapse before DOCTOR SCHULTE, of Detroit, asked me to see a girl with him, suffering from appendicitis. The patient was fourteen years of age. It seemed from the previous history that a slight attack of appendicitis occurred several years ago. On Sunday, August 22, 1897, the patient and her father ate a large quantity of sliced cucumbers. The latter came down with diarrhea, and recovered promptly after one dose of castor oil. The girl commenced to feel bad on Monday afternoon. She took "a good dose of salts," and as no action followed, two spoonsful of castor oil. Instead of the expected passage severe pain in the left lower abdomen started and lasted all the following night. Tuesday morning, about twelve hours after onset, DOCTOR SCHULTE was called and diagnosed appendicitis. The doctor gave first a hypodermic injection of morphia to relieve the intense pain, and later opium. The same day the patient vomited once. After the injection the pain subsided and the patient felt considerably better, but temperature and pulse soon rose. Wednesday, August 25, in the evening, after the patient had been ill for two days in full, I saw her in consultation with DOCTOR SCHULTE. The senosorium of the well nourished strong girl was entirely free. The face extremely pale, the tongue coated but moist. Abdomen slightly distended (no passage since three days), well marked tenderness over the appendix in front, not behind nor anywhere else. Full tympanitic sound all over the abdomen. Temperature 103°, respiration 40, extremely shallow, pulse 148, thread-like. It was exactly the same picture as the other patient, and I proposed not to operate. Next morning, August 26, third day, everything the same, but the pulse still being 148 was decidedly stronger, and over the appendix a well marked muscular tension had appeared without dullness. The patient was very thirsty, and drank water freely without any tendency to vomit. The same day at noon no change, except that the muscular tension over the appendix was less marked. In the evening the pulse was 140 and strong, temperature 103°, gas passing up and down. August 27 (fourth day) in the morning the temperature was 102°, the pulse 128 and strong. The abdomen was less distended, the tenderness over the appendix well marked, no tumor, no dullness. During the following days constant but slow improvement took place. As the abdomen became less distended a slight tumefaction was noticeable over the appendix, but disappeared in a few days entirely. On August 30 (seventh day) the bowels moved first, in spite of opium being still continued. The stool consisted of one small hard particle followed by some fluid; a part of the latter looked, according to the report of the nurse, like old blood.

September 1 (ninth day) the abdomen was soft, no tumor, no dullness, no tenderness in front over the appendix on moderate pressure, perhaps a little on pressure from behind. The pulse was 100 and the temperature 100.2°. The patient took bouillon and a little milk in weak coffee.

September 2 to 7 (tenth to fifteenth day) the patient ate nothing but bouillon, milk seeming to raise the almost normal temperature. Pulse 90 to 100, no movement. Abdominal pain set in as soon as opium was discontinued, so that it had to be given right along. I did not see the patient for ten days. On September 8 (sixteenth day) DOCTOR SCHULTE asked me again to see his patient. She had pain all over her abdomen, temperature 103°, pulse 120, but no local signs of appendicitis, very amazing tenesmus. We decided to give a clysma and discontinue opium. A free passage was produced and the patient felt much better. But there was no change in temperature and pulse. Then the doctor gave opium again and pulse and temperature came down slowly. The diet was milk. September 18 (twenty-sixth day), pulse and temperature having been normal for some time, the patient left the bed four weeks after onset of illness. About three weeks later (October 11) the patient felt well and had gained eleven pounds. She is in perfect health up to date.

The most prominent features of the two cases reported are severe and prolonged initial pain, extremely weak and rapid pulse (140 to 160), developing quickly after onset and lasting about three days, not very high fever (102° to 103°), very limited tumefaction, moderate distention, great thirst.

It is not my purpose to speak about the medical treatment, which very often prevents serious symptoms, if conducted properly from the start. The interest of the surgeon lies in the question whether it is contraindicated to operate or not.

I refused to operate in these two instances mainly not because I thought it unnecessary, but because I regarded it too dangerous. In my opinion it was contraindicated by the frightful weakness of the pulse, and not indicated by either a large abscess or spreading peritonitis. The favorable outcome of the cases certainly does not give an unmistakable proof of my opinion in regard to contraindication. It only shows that surgical interference was unnecessary and superfluous to save the lives. I repeat again, most decidedly, that under so dangerous circumstances the prevention of future recurrence cannot influence the surgeon and induce him to remove the appendix. Whether contraindicated or not can only be decided by comparing the results of similar cases under surgical and medicinal treatment. Carefully collected statistics giving the single cases in detail are necessary.

THE PRACTICAL VALUE OF DIAGNOSIS OF PRESENTATION IN INSTRUMENTAL DELIVERY.*

By A. N. COLLINS, M. D., Detroit, Michigan.

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This subject presents itself to my mind as the result of the study of several hundred cases; not all cases of instrumental delivery, however. From cases of natural delivery we are to draw our conclusions how best to assist the natural mechanism of labor by the artificial application of additional force. To apply the additional force intelligently we should strive to apply it along the lines of the natural mechanism of labor. To do with our instruments what the natural forces fail to do in the necessary time and order. To apply our supplementary or extraneous force along the same lines it becomes necessary for us to recognize the correct relations existing between the irregular body forced along the cam-like passage of the parturient canal. In other words, and to emphasize the idea, the relation of the head to the parturient canal must be such that favorable diameters of the head must correspond with the favorable diameters of the varying canal through which it passes, if we are to subject the yielding soft parts to the least chances of injury, and pass the unyielding bony prominences and narrows with a minimum of force. Hence a knowledge of position becomes of the greatest practical value, as we are to drag along this winding passage a body, that to progress easily, must fit this cam-like groove. I will not weary you with the well-known recital of conjugate diameters of the parturient canal, nor with a review of the long and the short diameters of the fetal head. I believe they are understood. We will but think back a few, or many years, to our student days when this subject was left "in a mighty maze (not) without a plan," a sort of mental delirium tremens of planes, positions, diameters and synchondroses which again arose to our minds a mental nightmare as we stood in awe at the bedside of our first patient; robbed thereby of whatever of practical common sense nature had given us, vainly trying to recall what some honored but overoratorical teacher had taught us. But let us simplify the subject as practical experience has simplified it. I would suggest as an illustration a flattened cork in a bottle with a flattened neck, twisted one-fourth round. Let the humble cork represent the fetal head and the twisted neck the canal. Seize the cork, always a few sizes too big for the neck, with thin forceps that will sink into it and draw it, or better still assist a pushing force from behind, through the twisted neck. We see at a glance how necessary it becomes to rotate it into proper relations to the flattened bottle neck if we are to remove the cork with a minimum of force and lacerating pressure upon the bottle. We also see at a second glance the necessity of a knowledge of the position of the cork, that we may keep the diameters in proper relation. Simple and crude as this illustration is, I believe it gives a more practical mental grasp of the situation and the relations of position to successful use of the forceps than a discussion of diameters and planes.

In instrumental delivery keep the occipito-frontal diameter of the head always in the longest diameter of the pelvis through which it is passing, if possible. If not possible, owing to other presentations, rotate the resisting parts to the most roomy diameters. To do this we must have a clear idea of position. In nearly all cases wherein I have found failure to deliver with forceps, I have found the efforts had been made to draw the cork without considering its relation to the shape of the bottle neck, and it would not come through easily and speedily in that position. The value of the forceps as gentle rotators, aided by the necessary knowledge of which way to rotate, had not been utilized. We will for a moment consider the value of the knowledge of position.

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*Read before the Michigan State Medical Society, at the Detroit meeting.

(1) In ease and rapidity of delivery without exhausting the patient or unduly bruising the child. Given strength enough and the modern forceps with lithotrite attachments and most cases can be delivered, but with unnecessary injury to both mother and child, unless the relative position of diameters be considered.

(2) The prevention of laceration of the perineum. In most cases forceps are applied with the head well engaged in the superior strait—with the head in an oblique position. If a kindly labor pain forces the head downwards usually it will rotate, but if pulled from below the rotation is very imperfect and the head emerges and presses upon the soft parts, not in the antero-posterior position but anywhere between the two, and if the accoucheur be vigorous and unskilled, the ill-adjustment of position to passage stretches the tissues to bursting. Unnecessary force and unnecessary stretching result in laceration of the perineum. When delivered the head will show that one blade of the forceps has bruised one eye and forehead, the other has caught under the ear of opposite side. With the grip and pull the forceps have not rotated, but retain the oblique grasp, emerging at the outlet with blades facing the perpendicular. This is often a cause of unnecessary laceration. By considering briefly the causes of laceration we readily grasp the importance of diagnosis of position.

(3) Too rapid delivery, giving the tissues no time to relax. It is a well-known fact that muscles and tissues rupture when rapidly stretched that will not when equally stretched slowly. The elasticity and contractile force is overcome, presumably by exhaustion, when force is slowly applied, giving it time to tire out, as it were, its tonicity. This is proven by rapid or gradual dilatation of the os uteri or sphincter ani; or of the tissue over large herniæ or other tumors, to an extent impossible by sudden dilatation.

(4) By dilatation beyond its capacity to yield without tearing when normal in elasticity.

(5) By failure of the parts to possess normal elasticity from whatever cause.

In delivery by forceps time is often limited and cannot be given for perfect dilatation. If by perfect adjustment of position to passage we can minimize the stretching it follows that we minimize the laceration. Most avoidable tears are produced instrumentally by the rapidity with which the head is delivered after the resistance of the bony parts has been overcome, and the rotary force applied by the bony prominences have ceased to act, thereby failing to place the relative diameters of head and pelvic outlet in proper relation. With our forceps we should place them in proper relation, and this clearly necessitates knowledge of position.

The forceps give almost perfect control of rotation, if our diagnosis is accurate and we intelligently apply the force to keep the diameters of head and pelvis in their normal relations; we profit by them in preserving the parts from injury. I am aware that many regard the forceps as a pulling instrument wholly. Tooth forceps may be, but not obstetric forceps. Their utility as rotating instruments, if we are accurate in our diagnosis of presentation, is very great. It seems unnecessary to add that the rotary force must be very gentle.

How are we to be accurate in our diagnosis? Easy as it seems and humiliating as it is to admit that we are not always sure of our diagnosis of position, it is my candid opinion, from my own experience and seeing that of others, that it is about the last lesson we learn well, of all our honored teachers taught. It is one of the many medical faculties that is sharpened and made accurate only in the school of experience. It is futile to enumerate the peculiarities of fontanelles, sutures and thickness of various parts of the fetal head; you all know them when you see them. We must learn to know them when we feel them.

If we are to use the forceps intelligently, it is necessary to use them in conjunction with our knowledge of position as rotators first, as pulling instruments second. When we have become skilled in this, the cases will be found few and far between wherein the light Elliott forcep will not answer all purposes, and we will not need the lithotrite attachment except in cases demanding craniotomy.

REMARKS ON TWO OBSTETRICAL LESIONS AND THEIR GYNECOLOGICAL SEQUELÆ.*

By W. P. MANTON, M. D., Detroit, Michigan.

PROFESSOR ADJUNCT OF OBSTETRICS AND PROFESSOR OF CLINICAL GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; GYNECOLOGIST TO THE EASTERN AND NORTHERN MICHIGAN ASYLUMS FOR THE INSANE; CONSULTING GYNECOLOGIST TO SAINT JOSEPH'S RETREAT, ET CETERA.

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Among the various lesions which may arise during the parturient act there are two, the far-reaching effects and evil consequences of which may render the life of the patient one of constant suffering if not chronic invalidism. I refer to lacerations of the cervix uteri and the perineal body. It may be claimed that this subject has already been so frequently discussed that little or nothing new remains to be said regarding it, and I am ready to admit that nothing further need be said if physicians would only put into practice a small part of what they have learned regarding the seriousness of these obstetric accidents. But unfortunately the knowledge which one may possess is not always demonstrated in practical work, and thus it comes about that the neurologist and the gynecologist are very often called upon to treat the results of conditions with which the other man may have had familiar acquaintance, but failed to make use of his knowledge either in the way of prevention or of cure.

The conditions mentioned, while recognized by everyone as undesirable accidents of delivery, are, in spite of text-book and current literature teachings, still not accorded the consideration which their importance deserves and should command.

Regarding the first of these lesions, it may be stated that no primiparous woman ever gives birth to a child at or near term without sustaining some injury to the cervix at its lower orifice. In the majority of instances this split in the tissues heals perfectly during the period of puerperal convalescence without resulting deformity. In these cases it will be found on examination that the tear has extended toward or even up to the crown of the cervix, but that it has not passed over this important landmark. If the laceration exceeds this limit, union of the torn surfaces is less likely to occur on account of the anatomical relation of the parts, or if healing does take place, the coaptation of the surfaces being imperfect, the interval between the lips of the wound becomes filled in with plastic matter, and this in time acquiring a firm and cicatricial character produces irritation of the terminal nerve filaments of the part, and secondary, reflex phenomena sooner or later are developed. In many cases, especially when the patient is not carefully looked after during the early puerperal weeks, the lips of the torn cervix remain ununited, increased separation takes place as soon as the erect position is assumed, and then eversion, cystic degeneration of the exposed and irritated cervical glands and erosion of the surface follows. In whatever form lacerations of the cervix may appear, they are sooner or later likely to be followed by a train of symptoms, especially if from any cause the physical condition of the patient is reduced, which may vary in intensity from mere pelvic discomfort accompanied or not by vaginal discharge, to intense suffering with greater or less bodily incapacity.

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* Read before the Detroit Academy of Medicine.

Not infrequently sterility is a noticeable sequence of this condition, or repeated abortions during the early months of pregnancy result from the chronic inflammation of the endometrium upon which the ovum finds an insecure attachment. Associated with these lesions are also often present a hoard of neurotic manifestations which sometimes bring the sufferer to the borderland of insanity. Within the past few years laceration of the cervix uteri has been put down by some writers as actually giving rise to mental aberration. I desire on this occasion to express my dissent from this view. After a fairly large experience during the last ten or a dozen years in the treatment of local disorders in insane women, I have yet to see a single instance in which the mental derangement could be traced directly to this parturient lesion. Any serious laceration of the birth canal during labor may act as an important factor in the production of mental disorder when associated with outer conditions which of themselves might give rise to the cerebral malady, but these lacerations, *per se*, are incapable of effecting such results. In cases of puerperal insanity recovering mental balance following operations on the cervix uteri, the favorable outcome should be looked upon as the result of the combination of the various therapeutic measures which have been instituted with this end in view. Without going too minutely into the consideration of all the sequelæ of cervical lacerations, I desire to notice a few points in connection with this condition which may serve as a basis for discussion.

In the first place, while some laceration of the uterine neck is inevitable in first labors and often occurs in the multiparous, an increased tendency to this accident may be encouraged by unskillfulness on the part of the accoucheur. Rough manipulation of the parts, forced digital dilatation of the external os to hasten its obliteration, the premature employment of the forceps and lack of dexterity in their application with too rapid extraction of the child, all tend to promote this lesion, while uncleanliness of hands or instruments may give rise to septic infection through the lacerated tissues and thus prevent the perfect healing of the torn parts. Or in other instances by the setting up of a septic uterine catarrh the tubes may be invaded with resulting salpingitis, which by further extension along blood-vessels and lymphatics to the cellular tissues of the broad ligaments a periuterine inflammation may be started with resulting adhesion bands and strings, or local or general peritonitis may ensue.

If primary and secondary septic infection could be excluded in these cases of cervical laceration, there is little doubt but that the majority of such lesions would heal by first intention, other things being favorable, and we should neither hear nor see further of them. Skillfulness and cleanliness are therefore not only essential factors in the prevention of this class of injuries and their sequelæ, but are equally important in their cure.

In the second place, when laceration has occurred, much may be accomplished in a curative way by prolonging puerperal convalescence in bed. I am absolutely certain that the usual getting-up time of ten days after labor is, especially in the upper classes, promotive of the greatest evil in this connection. With the woman on the back or side the tendency of the torn lips of the enlarged cervix is to fall together, agglutination then follows and under proper conditions healing results. If, however, while the point of union is still soft and plastic the patient is permitted to get upon her feet and resume her ordinary duties, the sagging of the heavy and incompletely involuted womb, the intraabdominal pressure, the weight of the superimposed organs and the contraction of the abdominal walls force the wounded surfaces apart, and ectropium is started only to progress. It must also be borne in mind that these lacerations favor subinvolution—another argument for a tardy getting up.

Regarding the second lesion which I have mentioned, laceration of the perineum, nearly everything which has been said with reference to the cervix is equally applicable here. But more especially are to be noticed in this connection the nervous symptoms which may take origin from this source. The neurasthenic and reflex exhibitions are often most marked, and the physician who fails to recognize the importance of this lesion and continues in the attempt to restore the health and vigor of his patient by internal medication, surely does the latter great injustice and brings little credit to himself.

A SYMPOSIUM ON DISEASES OF WOMEN.

HABITUAL ABORTION.*

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CASES of habitual abortion, with histories covering a long period of time, are so rare that I hope the following case may be of interest to you. The history covers a period of twenty-five years, during seventeen of which the patient was under my observation.

In July, 1881, MR. G. consulted me in regard to the condition of his wife, at which time I gleaned the following history: MR. and MRS. G. were married September 9, 1872, and the first miscarriage occurred in the ensuing December at the second month of gestation; the second in May, 1873, at the fourth month; the third in December of the same year, at the fifth month, and the fourth in May, 1878, at the seventh month.

MRS. G. was born at Ottawa, Province of Ontario, December 27, 1854. Her parents are living and in excellent health. Her father is seventy and her mother sixty-two years of age. During the last seventeen years she has never required the services of a physician, except during gestation and parturition, and she informs me that she was never sick in her life. At present she is the picture of health. Her hair is black, eyes gray, cheeks and lips red, and she is strong and able to do the work for a large family.

MR. G. was born at Ottawa, in October, 1853. His father is living at the age of seventy-eight years, and in good health. His mother died in her fifty-sixth year, the cause of her demise being unknown. He is a large muscular man and has been ill only twice in his life—once during boyhood when he had small-pox, and two years ago when he had an attack of indigestion. His hair is dark and thick, teeth sound and regular, skin clear and healthy, and but few would consider him a man past forty years of age.

There is not in the personal or family history of these persons any sign of hereditary disease. A physical examination of MRS. G. revealed no disease or laceration of the organs of generation, neither was there at that time, nor has there been since, any evidence of syphilis. The history of the several miscarriages gave no clue to the cause of the trouble. Labor simply set in and the fetus was expelled. Convalescence was rapid and in a few days she resumed her household duties. She next became pregnant during the spring of 1881, and in the latter part of July she came under my care and in the following January she gave birth to a son at the full period of gestation. In the following November she again became pregnant and I adopted the same plan of treatment and in June, 1883, I delivered her of a daughter. In December, 1884, she again became pregnant and thinking the treatment unnecessary neglected it and in March, 1885, aborted at the fourth month. During January or February, 1886, she again became pregnant and having little faith in the treatment again neglected it and on the second of July gave birth to a child that lived a few hours. During the fall of the same year she again became pregnant and I induced her to try the former plan of treatment and on the 31st of July, 1887, she gave birth to a daughter at term. During the three subsequent pregnancies no objection was made to the treatment and as a result on the 3d of March, 1890, a son was born; February 8, 1892, a daughter, and October 13, 1893, a son. During the spring of 1895, she again became pregnant, but not knowing she was so far advanced neglected all precautions and aborted in July at about the fourth month. The history of the case is not closed for the patient is now pregnant and under treatment.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

To recapitulate. During the twenty-five years of married life she has conceived thirteen times. Seven times she aborted, and six children have been born at full term. During the pregnancies which went to term the mother was constantly under treatment. Since the family came under my care she has conceived nine times. Six pregnancies she has carried to term under treatment; three she lost when not under treatment. Furthermore, these six children are alive and enjoying health. They have passed through the diseases incident to childhood and to all appearances have strong constitutions, no sign of any hereditary disease having ever made itself manifest.

The etiology of habitual abortion is very obscure. Some authors deny its existence and hold that it is due to some pathological condition acting in successive pregnancies, while others believe that it may exist independently of any organic lesion (**Playfair**). **John Burns**, in his classical work on "Obstetrics," published in 1811, states the case in these words:

"In the next place, I mention that one abortion paves the way for another, because letting other causes arise, it gives the uterus a tendency to stop its action of gestation at an early period of conception, and it is therefore difficult to make a woman go to the full time, after she has aborted frequently. The fact has often been explained upon the principle of repeated abortion weakening the uterus, and this certainly may have some influence. The renewed operation of these causes which formerly induced abortion may likewise account in many cases for its repetition. But I am also inclined to attribute the recurrence, sometimes to habit, by which I understand that tendency which a part has to repeat or continue those modes of acting which it has frequently performed as we see in many diseases of the stomach and wind-pipe, spasmodic diseases of those organs being apt to return at the same hour for a long time."

Not only the older authors recognized habit as one of the causes of abortion but also the latest authorities. **Thomas King**, in his "Manual of Obstetrics," published during the past winter, places habit among the causes.

Dorland, in his work published in 1896, uses the following language: "It is also known that one abortion predisposes to others in subsequent pregnancies, and thus the deplorable condition of habitual abortion may be inaugurated, the woman showing an apparent inability to carry the fecundated ovum to term."

Professor James H. Etheridge, of Chicago (in the "American Text-Book of Obstetrics"), says: "Systemic recurrent or so-called 'habit' abortion is probably due not so much to a maternal constitutional predisposition, the result of habit, as was once believed, as to a continuance of the original cause."

Doctor Playfair says: "It is probable that in many women a recurrence of the accident induces a habit of abortion, or perhaps it might be more accurate to say, a peculiar irritable condition of the uterus which renders the continuance of pregnancy a matter of difficulty, independently of any recognizable organic cause."

Doctor Karl Schroeder says that "there can be no doubt that independently of demonstrable pathological conditions of the maternal organism, some individuals are of such an irritable constitution that they have a peculiar disposition to abort. In virtue of which, even when the ovum and the maternal organs of gestation are healthy, incidents such as slight bodily or mental excitement which are borne without any bad consequences by the great majority of women, cause a premature interruption of pregnancy."

The etiology of this case is very obscure. I do not think it due to any hereditary disease, because it would have shown itself somewhere from grandparent to grandchild before this time. It is hardly possible that a local condition could act, from one pregnancy to another for twenty-five years, without revealing itself either to the patient or physician, especially to the patient. A careful examination of the fetus and its membranes or of the placenta revealed nothing unusual.

DOCTOR PLAYFAIR's explanation seems more rational than any with which I am acquainted, and yet it is not satisfactory. He says it is due to "a peculiar irritable condition of the uterus which renders the continuance of pregnancy a matter of difficulty, independently of any recognizable organic cause." The thoughtful student will ask, Through which nerve does the irritability act? Upon which part of the uterus does it act? From which part of the body does it originate? and What is the nature of the irritation transmitted? In the present state of our knowledge these questions cannot be answered. But when they are answered I believe the cause of habitual abortion will be the same as the cause of labor at the full period of gestation.

The treatment of these cases naturally divides into hygienic and curative.

First, as to the habits of life. There should be no radical change in the habits of life except in unusual cases. Women should attend to their ordinary household duties. Heavy work should be forbidden, such as laundry work, scrubbing, and lifting heavy weights. Among the wealthy the duties of society must be curtailed and a simple and quiet life advised. All classes should use simple, wholesome food, taken at seasonable hours. They should retire early and take plenty of sleep. Tightly-fitting garments must be forbidden. The skirts should be supported from the shoulders, not from the hips, so as to take the weight off the fundus of the uterus. An abdominal supporter should be advised to prevent the uterus from falling too far forward, and so adjusted as to make the spinal column bear the weight of the abdominal ovoid. Among the wealthy classes systematic exercise in the open air must be required, such as walking, riding, boating and light gymnastics, which will do much to arouse the vital functions to healthy action. A sponge bath followed by gentle friction should be taken daily, and the bowels regulated either by a carefully selected diet or a gentle laxative. During the menstrual epoch the pregnant woman should remain in bed for two or three days.

The medicinal treatment consists in meeting special indications and giving two classes of drugs which have special effect on the functions of nutrition and assimilation, namely, tonics and certain remedies which act upon the uterus. Among the first class of remedies are the phosphates of iron, quinine and strychnine, the phosphates of lime and soda, and the dilute phosphoric acid. In the second class there are three drugs which are of great value in the treatment of habitual abortion and for that matter in abortion due to any cause. They are asafetida, Jamaica dogwood and viburnum prunifolium—black haw. Asafetida is a gum resin obtained from several species of plants indigenous to Persia and other Eastern countries, and has been used in medicine hundreds of years for its antispasmodic properties. Its use in habitual abortion is highly recommended by Italian physicians. It is to be given in doses of three to five grains three times a day throughout gestation. It has been found to reduce hemorrhage and to have a quieting effect upon the nervous system (SHOEMAKER). Jamaica dogwood is a native of the West Indies, and was first mentioned in 1794, by DOCTOR BURHAM, of Jamaica, who first used it as an astringent wash. Its true character was not brought before the profession until 1844, when DOCTOR WILLIAM HAMILTON, of Plymouth, England, described it "as a powerful narcotic capable of producing sleep and relieving pain." No further attention seems to have been given to the subject until about 1880 when we find several references to it. There is a paper by DOCTOR SCOTT in *The Therapeutic Gazette* of that year, and a short reference to it may be found in *New Remedies* for April, 1880, in which the properties of the drug are described and the dose of the fluid extract given. In August, 1880, *The New Idea* published by F. Stearns & Company contained the following relating to the drug: "We imported a parcel of this a year ago from the West Indies. It is used in the form of a fluid extract as a narcotic and antispasmodic." From these references it must have been on the market several years. Therapeutically it is indicated to allay pain, promote sleep and quiet reflex excitability. It has been found from experience to have a peculiar power upon pelvic pain due to dysmenorrhea, false pains, and uterine pain due to threatened abortion, and may be combined with viburnum, when opium is contraindicated and a mild narcotic effect is desired, a property not ascribed to black haw. In threatened miscarriage a half drachm of each may be given every two hours, and in cases of habitual abortion three times a day until the danger is passed.

Black haw, or viburnum prunifolium, is a small tree, noted for its beautiful leaves and flowers. It is indigenous to Michigan and some other of the central states and states east and south of them. According to all the authorities of the so-called regular school, that I have been able to consult, the credit of introducing this valuable drug into practice is given to Doctor D. L. Phares, of Newtonia, Mississippi, who published his experience in 1866 in *The Atlanta Medical and Surgical Journal.* This is certainly a grave mistake, for in "Doctor King's Dispensatory," page 967, published in 1864, may be found a description of the drug and its therapeutics, to which nothing new has been added since. He says: "Black haw is tonic, astringent, diuretic and alterative. It appears to exert an especial tonic influence upon the uterus, and is highly recommended in cases of threatened abortion and as a preventive in cases of habitual abortion. In the latter case its use should be commenced a week or two before the aborting period, and be continued the remaining period of pregnancy. It has also proved useful in relieving severe afterpains." The dose of the infusion is a half ounce; of the tincture and powder, one drachm, to be given several times a day. Almost exactly the same account may be found in "Doctor Gunn's Family Physician," published in 1859. This shows that it was a well-known drug long before the regular profession noticed it. Why this obstinacy, unless it is due to that ancient pharisáical pride which believed that nothing good could come out of Nazareth. Its physiological action has been studied by several investigators. It is said to be "without influence on sensibility or consciousness," but upon the centres of motion it produces "paresis followed by paralysis, and, finally, loss of reflex power." It also lessens blood pressure from a distinct action on the vasomotor system.

The treatment of the case herein reported was along these lines. Mrs. G. invariably discontinued performing heavy work, such as laundry work and cleaning, but further than this attended to her ordinary duties which cannot be considered light. She has always enjoyed a good appetite, perfect digestion and regular bowels, so that the medicinal treatment has been limited to giving the fluid extract of black haw in half drachm doses three times a day. The medicine should be given as soon as the diagnosis of pregnancy is made, and continued during gestation. If there are evidences of uterine contractions Jamaica dogwood should be added to the treatment. If the abortion is threatened, then, in addition to these remedies, opium should be given, the patient put to bed and otherwise treated as in abortion from other causes.

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THE RELATION OF HEMORRHAGE OF THE STOMACH TO MENSTRUATION.*

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Hemorrhage of the stomach is a very important symptom and aids us in the diagnosis of different diseases. Many physicians rely upon this one symptom alone in making a diagnosis, and therefore find themselves at times perplexed. Hemorrhage from the mucous membrane of the stomach occurs in various diseases and under various conditions, all of which must be taken into consideration; and it can be asserted that in order to make a correct diagnosis, it is important to ascertain all etiological factors involved in a given case.

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* Read before the Wayne County (Detroit) Medical Society.

Hemorrhage from the stomach must be differentiated from hematemesis, for they are not always synonomous terms. It is known that a large quantity of blood in the stomach will produce emesis and therefore the profession speaks of hematemesis as a sort of general term for hemorrhage from the stomach. Many cases of gastric hemorrhage, however, do not present themselves to the physician; in fact often the patient does not realize his condition, because the volume of hemorrhage is too slight to produce emesis. Again, some individuals are more susceptible to vomiting than others; in some cases a small quanity of blood will be sufficient to produce vomiting, in others a larger quantity is required.

It is the stomach-tube that has told us that hemorrhage from the stomach occurs more often than we supposed. In the majority of instances it is possible to recognize blood that has come from the stomach by a spectroscopical, chemical and microscopical examination of the feces. But when the quantity of blood is small and the blood corpuscles are broken down, it is quiet a difficult matter to prove its presence. Macroscopically, blood mixed with the feces has a black tar-like color and consistency. Tarry stools may be caused by hemorrhage from the duodenum, jejunum or from any part of the intestinal tract; therefore before a diagnosis of gastric hemorrhage can be made, we must exclude duodenal ulcer, dysentery, typhoid and tubercular ulcers, anchylostomum duodenalis, et cetera. In intestinal hemorrhage the feces themselves are not changed in color by the blood, as they are when the hemorrhage comes from segments higher up in the digestive tract. The feces may be discolored by food, such as blackberries and the like, by drugs, as iron, bismuth, et cetera, and by an excessive secretion of bile. In all doubtful cases the spectroscopical, chemical and microscopical examination will assist us in the diagnosis.

In many unsuspected cases we find, in removing the stomach contents, that the fenestra of the stomach-tube contain small clots of blood and that the gastric contents are mixed with blood. At times we can tell from its peculiar appearance that blood is present in the gastric juice, but blood may be present and still remain unrecognized. I have frequently proven that fresh blood can mix with the stomach contents without changing its appearance; it depends upon the amount of blood present. Bile is apt to change the color of the gastric juice; and it is important on that account to determine whether the food has been well digested or not. The color of the gastric contents is often altered by red wine, coffee, cocoa or brown-colored medications. It is advisable to make a careful examination of the stomach contents in all patients in whom gastric hemorrhage is suspected. Microscopical examination of the gastric contents for blood is of value only when the hemorrhage has recently taken place. In many cases the red blood corpuscles are so altered by the presence of hydrochloric acid that it is difficult to recognize them, for the hydrochloric acid swells and breaks them down. The spectroscope is very valuable in these cases, in conjunction with the chemical test for hemoglobin.

All blood found in the stomach does not by any means come from the mucous membrane of the stomach. It may come from the mouth, nose, esophagus, or lungs. Again we may have a duodenal ulcer and the blood may flow back into the stomach. We must be sure that the blood comes originally from within the stomach if we wish to secure a safe etiological explanation.

Hemorrhage from the stomach may occur in gastric ulcer, carcinoma, venous stasis originating from disorder of the heart, lungs and portal obstruction, cirrhosis of the liver, scurvy, yellow fever, acute yellow atrophy of the liver, rupture of an aneurism, and lastly a very valuable group of cases from active hyperemia.

The majority of the above named causes are well known; but the class of active hyperemia is little understood. It is to this class of cases of active hyperemia that hemorrhage from the stomach, which is coincident with menstruation, belongs. The time alloted me is too short to go very deeply into this subject, though the study of the relations subsisting between hemorrhage of the stomach and menstruation is very interesting. We know that hemorrhage from the stomach can take place periodically and along with regular menstruation. This coincidence is worth tracing and accounting for.

Hematemesis at the time of the expected menstruation is well known and needs no further proof. In latent ulcer of the stomach hemorrhage, whether vomiting is present or not, takes place monthly when the menses have ceased. Hematemesis when the menses have ceased is mostly found in chlorotic girls, but occurs also in other patients. It occurs in all those conditions which permanently or temporarily produce amenorrhea. We have hemorrhage from the stomach at the time of menstruation more often than we formerly supposed. This hemorrhage DOCTOR KUTTNER very aptly calls "menstrual gastric hemorrhage."* It occurs usually a few days before the regular menstrual flow and again at the menstrual epoch. Patients with menstrual gastric hemorrhage always have symptoms of indigestion at this period and the examination of the stomach contents after a test-breakfast reveals the presence of blood. There is also found at this time a decreased digestive ability of the gastric juice. The hydrochloric acid may be found to have entirely disappeared at this time. When patients suffer from scanty menstrual flow and stomach symptoms at the same time, we must *suspect* hemorrhage from the stomach, though vomiting is not present. Hemorrhage from the stomach is often diagnosticated by means of the stomach tube without hematemesis.

32 ADAMS AVENUE WEST.

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CONSTITUTIONAL CAUSES OF ABORTION.†

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WE may regard, I conclude, all diseases generated from within in the course of wear and tear, or in consequence of inherited or acquired weaknesses as constitutional. It would seem that no rigid line can be drawn to separate local or constitutional and specific diseases from one another aside from syphilitic conditions. All conditions which lead to depression of a woman's health and strength, such as anemia, lack of proper nourishment, and especially those resulting from a syphilitic taint, have a tendency to weaken and destroy the natural vitality which should be the right of the embryo. If the person be syphilitic it is not always an easy matter to detect. In many cases it is very difficult to find sufficient evidence to enable one to arrive at an absolute conclusion. The patient may be willing enough to supply the information, but ignorance of the symptoms and source deceive.

Fevers of the zymotic variety, more particularly, exert an unfavorable influence on the retention of the ovum.

Acute inflammation of any of the internal organs, such as pneumonia, frequently become complicated by abortion.

Abortion may be brought on by shock operating through the nervous system, yet while many cases of abortion may be due to this cause, it is always to be borne in mind that there may have existed a morbid condition of some parts of the uterus or its contents making the person constitutionally predisposed to abortion. This predisposition is often inherited and the woman will have the predominant nervous temperament with feeble digestive powers and irritable generative organs. If scrofula is mingled with these conditions an abortive influence is also present.

Tuberculosis, too frequent pregnancy, inflammation and adhesion of the placenta to the uterine wall are other disturbing influences.

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*"Ueber Magenblutungen und besonders Ueber deren Beziehung zur Menstruation." SONDERABDRUCK aus der *Berliner klin. Wochenschrift*, Number VII, 1895.

†Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Nephritis in the mother will exercise an unfavorable influence upon the life of the fetus. **Cohen** estimates fetal mortality from nephritis at seven per cent; then comes placental endometritis, that is, inflammation of the inner coats of the arteries, with necrosis of the connective tissue of the placenta, resulting in diminishing the surface available for the aeration.

It is not difficult now to follow out the course of events and see how premature expulsion of the ovum is affected. The first factor in the chain of events is the enfeebled power of the left ventricle. As a result of this the blood stream no longer passes briskly through the small vessels of the periphery, but is driven in a sluggish manner from arteries to veins, the effect being that the walls of the arterioles and capillaries rapidly deteriorate, begin to bulge and then to leak. Blood extravasations are frequently permitted. Each small extravasation between the uterine wall and the membranes of the same separate the latter partially from the uterus. When sufficient separation has occurred the ovum becomes practically a foreign body and as such is cut off, or, in other words, abortion takes place. This is proven by the clinical fact that small and repeated blood losses often takes place many days before the final expulsion of the ovum.

If this is a proper explanation of some of the causes of abortion our course is clear as to a satisfactory and successful treatment. We must treat the symptoms as they arise according to our knowledge of the patient and the cause.

NEURASTHENIA.*

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The knowledge which we have of the general functional diseases of the nervous system has increased to such an extent that it has become very difficult to overlook this branch of scientific medicine. The physio-pathological basis of these morbid processes is not entirely clear and distinct. I have selected as a topic for a few remarks a group of functional disturbances of the nervous system, which are at the present day treated under the term neurasthenia. The accurate knowledge of the morbid symptoms, which we collect under the term neurasthenia, is not so generally found amongst the general practitioners. The importance and the seriousness of the physical and mental condition of the individual suffering of symptoms of this affection are very often disregarded, the prognosis in these cases is not conscientiously considered, the relation of this affection to other functional disturbances of the nervous system and to mental affection is not properly appreciated.

The development of clinical medicine has for the past forty years, under the influence of pathological anatomy, caused a one-sided investigation of such diseases for which an objective basis could be found. The physical examination, the chemical reaction, the improved microscopical technique have been the great means for inaugurating a steadily growing activity in the field of scientific investigation of the facts observed in the clinic, and the development of clinical diagnosis of the majority of constitutional and infectious diseases, and knowledge of the inflammatory and degenerative affections of different organs has become dependent on the objective changes which could in the observed cases be demonstrated by the new methods of scientific observation. There is hardly any branch of scientific medicine in which the influence of pathological anatomy has not succeeded in establishing numerous facts by which the nature of diseases become clear. The material changes underlying certain symptoms observed in a good many cases of nervous diseases have been investigated and have done a great deal to put our knowledge of nervous diseases on a firm basis, as for instance the development of the knowledge of pathological changes in cases of general paresis and the different diseases of the spinal cord.

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*Read before the Detroit Medical and Library Association.

The increasing knowledge of the importance and extent of the pathological changes and the fact that by this knowledge we are enabled to explain the clinical symptoms have resulted in underrating other means of observing and examining the sick. Principally does this occur when we have to deal with the functional diseases of the nervous system. The functions of the human organism are subjected to the most manifold external and internal impressions, which manifest themselves by physiological and pathological changes and are only perceptible during the time the existing cause, either an internal or external stimulus, is active. For these manifestations of activity of the living organism are the above mentioned methods of investigation only in so far sufficient to give an explanation, as they lead us to find certain physical and chemical results of their functional disturbances (the examination of secretions and excretions, the condition of the blood, the temperature of the body and of the motor function). The nature of the liberating stimulus will in the majority of cases remain inaccessible to objective investigation, principally the changed condition which has been effected in elements constituting the functionating parts.

The results of examining the sick, as pointed out in our remarks, will still be more unsatisfactory when the visible phenomena following abnormal processes of the living organism are of a transient and uncertain nature. The subjective impression and observations of the sick, the so-called subjective symptoms, will stand in strong contrast to the result of an objective examination. A one-sided consideration of the latter is liable to misjudge and underrate the importance of the former. From the underrating of the importance of subjective symptoms originates the reluctance of studying such symptoms of disease which we are not able to grasp in our usual scientific way; we do not have sufficient interest in such cases to get from the sum total of all single observations an underlying principle. Only in such a way can it be explained that a good many physicians have an absolute disinclination for studying such nervous diseases as show a relative want of exact symptoms. This fact accounts for the want of interest in neurasthenia which physicians in general have shown.

Neurasthenia has been styled a disease of the modern civilization, whether properly so, remains an open question. The duty of the scientific observer consists in giving all his attention to the numerous and manifold pathological symptoms which we observe in persons of nervous disposition. From the careful investigation of causes and phenomena of so-called functional nervous disturbances can be reached an understanding which will enable us to appreciate the importance which these affections may have for the physical and mental health of the present and future generation. The question of successful treatment also depends on this.

It is very difficult to give a proper definition of neurasthenia, because we have to deal with pathological phenomena and conditions which are very inaccessible to a distinct classification on account of the transient and changing symptoms. To Beard has been ascribed the merit of having been the first who has given a definition and description of neurasthenia. Beard's merit consists in having had the proper understanding of the group of symptoms characterized by their changing and transient nature; some very pronounced, some less, and some very persistent. He succeeded in separating them from symptoms observed in more serious cases of fully developed neuroses and psychoses. Dercum defines neurasthenia, in its simplest form, a condition in which there is a more or less marked and persistent diminution of nerve energy, together with an increased reaction, mental and physical, to external impressions. In other words, we have two principal symptoms, nervous weakness and nervous irritability. Diminished resistance to fatigue implies diminished resistance to impression from without.. Weakness and irritability seem thus to be necessarily associated. Dercum says that the symptoms presented in neurasthenia are those of a constantly recurring symptom group and that we have a well marked clinical entity with which we have to deal.

It is very interesting to know that Doctor VanDeusen, of Kalamazoo, Michigan, first used the word neurasthenia, in the supplement to the "Biennial Report to the Michigan Asylum for the Insane for 1867," under the heading of "Observations Upon a Form of Nervous Exhaustion (Neurasthenia) Culminating in Mania." VANDEUSEN says in his report: "Our observation here led us to think that this is a disorder of the nervous system, which is well expressed by the term given above and so uniform in development and progress that it may with propriety be regarded as a distinct form of disease."

BINSWANGER considers neurasthenia as an affection which is on the border line between the undeveloped neuropathic disturbances and the fully established neuroses and psychoses. He comprehends under the term neurasthenia the neuropathic symptoms of disease which have developed in the root of general functional affections of the nervous system, but which symptoms do not belong to the fully developed functional neuroses and psychoses. Although there is in spite of that a common origin for both, nevertheless the former must on account of their incomplete development be separated from the latter.

Today the majority of authors consider neurasthenia as a group of symptoms marked by an irritable weakness of the whole system. Weakness, aggravated liability to exhaustion and increased irritability as manifestations of fatigue are physiological phenomena, but become abnormal and reach the point where they become pathological at the moment the intensity and the duration get out of proportion to the previous work done and to other causes active in the case. It is a well-known fact that the character of a child becomes changed when it is forced to remain awake beyond his usual time, and when at the same time it is forced to continue to direct his attention to his play. It will occur to nobody to look upon the changed mood and lessened vivacity of a fatigued child as a neurasthenic symptom. It is quite a different thing when a young, in other respects a healthy and robust man complains after a short walk of feeling tired and of a pain in his back. For neurasthenia is characterized by the ungrounded and unusual aggravation and extended duration of symptoms of fatigue which are under usual conditions physiological phenomena. If we keep in mind this fact of the disproportion between the symptom of fatigue and the amount of work done, thus will we be able to understand the cases which come under our observation. The symptoms with which neurasthenia presents itself are very manifold. Age, race, sex, the time in which an individual lives, the cause and the extent to which the whole nervous system or single part of the same are affected are all factors which will modify the symptoms. The neurasthenia which we here consider in contrast to neurosis due to occupation, which has to be classified as local or partial neurasthenia, is a disease which affects the whole nervous system and principally the brain.

General weakness, decrease of mental and physical energy and a depressed or irritated condition arising out of the consciousness of such weakness are the prevailing symptoms of neurasthenia. The whole mental and psychic centers are in a state of unsteady equilibrium. There is an unsteadiness of action, and an undue hurry is manifested, sometimes an unusual amount of work is performed, of course only for a short time; there is lack of decision, confused condition of the mind and a decreased apperceptive faculty. In the course of time sleep will become disturbed; there will be headaches, complaint of attacks of fear and anxiety, weakness and pain in the back and extremities, pain and aches all over the body, manifesting themselves in fixed or transient and often changing forms of neuralgia, to which will come a group of annoying dyspeptic symptoms, general weakness, et cetera.

The pathology of neurasthenia is not yet satisfactorily explained. Some have tried conscientiously to bring light into this problem. Physical examinations have not succeeded in bringing sufficient proof for the presence of organic changes. It has been contended that the nervous system of a neurasthenic is more of a fetal character, that the ganglion cells are small, their processes not very numerous and short, that in connection with the defective development of the nerve cell the blood corpuscles were found to be abnormal, that with the abnormal condition of the nervous system was connected a poor condition of the blood. A great many authors agree with **Erb** who believes that in neurasthenia, as is also the case in other so-called functional neuroses, we have to deal with very minute molecular changes in the central organs of the nervous system. Who will decide whether these changes are more of a chemical than morphological nature? **Loewenfeld** expresses the opinion that these disturbances of nutrition are dependent on defective development of the cerebral blood-vessels. **Mueller** and **Kaan** ascribe the same to anomalies of the constituents and distribution of the blood. The effect of accumulation of products of nutrition in the intercellular substance is another hypothesis which will also leave the real fact undecided. The improved methods which have lately been applied with great success in investigating the minute structure of the nerve centers, will in the near future benefit the knowledge of the so-called organic disease of the nervous system. **Golgi**, one of the originators of this method, has succeeded in proving very interesting changes in the nerve cells of the cerebral cortex in cases of rabies, also in cases of chorea. **Colella** has examined different cases of psychoses and **Binswanger** has made use of these methods in his work on general paresis.

The investigations carried on in normal histology have been so interesting and the results have been of such a kind as to throw light on the processes going on in the nervous system and on the nature of neurasthenia. It is only a short time ago that we thought our cerebral nerve organ was a system of cells freely anastomosing with each other, into which by the way of sensible and sensory nerves impressions were conveyed from the periphery, and through which motor impulses were carried from the center to the periphery by the motor nerve. **His** objected to this view on facts gained from observation, as also did **Ford** on theoretical reasons, hence this time have we arrived at a different knowledge of the minute structure of the nervous system. **Golgi** and **Ramon y Cayal** have succeeded in demonstrating that the so-called dentrites or protoplasmic processes have free terminations, the same to be the case with the axis cylinder or the nerve process of the ganglion cell. The supposed continuity does not exist. Our nerve system consists of numerous completely isolated cell districts or neurons. The nerve cells have two kinds of processes, first, several short arborescing processes, called the dentrites with free termination, second, the long processes, of an uniform calibre running a well defined and clear course. The larger processes have free terminations, with which they come in the propinquity of the dentrites of the corresponding nerve, around which cells they form minute branches without joining with each other. The most important part of the neuron is that part which very likely represents the physiological individuality of the nerve cell. The cell is the accumulating center for impressions, the dentrites or centripetal conductors receive their impression from their surrounding and which are further propagated by the centrifugal nerve processes. According to the direction peripheral sensory nerves convey impressions have we to classify them as dentrites which have been put forward by the cells of the ganglion cells for the purpose of receiving impressions from the periphery where they have arborescent and round-shaped terminations. The nerve processes of the uni- and bipolar nerve cells enter into the posterior root of the spinal cord. Here a division takes place into a short, thin, descending and a long and stronger ascending branch, from both of which minute branches separate at certain distances, known as collateral branches. These enter into the gray substance, taking a course in a forward direction, the majority terminating in the propinquity of the motor cells of the anterior cornua of the same side, surrounding these motor cells with very minute and free terminating branches. Another division of the collaterals have their termination in the posterior cornua and in the median part of the cord. The ascending branch takes its course within the posterior column, finally terminating in a free dentrite in the medulla oblongata, where the sensory spinal ganglion has finished its course. For the purpose of further conveying an impression, which has taken place, another nerve unity, or, as **Waldeyer** expresses it, another neuron has to come in function; and these neurons are the nerve cells of the nucleus of the posterior column, the fibres of which after their decussation enter into the cerebral cortex where they terminate in the propinquity of the cortical sensory cells in minute ramifications. By these cells is the stimulus propagated to the motor, the pyramidal cells, which by the way of the pyramidal tract and their collaterals come into relation to the motor cells of the anterior cornua. By the latter the motor impulses are conveyed to the muscular fibres to which they attach themselves and which they surround by their dentrites.

The five nerve units which we have tried to describe we could properly call the long tract or neurons with long processes. Next to them we have to mention the columnar cells (strangzellen) of the spinal cord. They get this term from the fact that their processes have at least a sufficient degree of longitudinal extension to follow a vertical direction and to attach themselves to the whole column of the spinal cord. There is yet another kind of cells of medium and smaller size, the so-called Golgi cells, having nervous processes hardly or only very little longer than the dentrites, never transgressing the area of the gray substance, respectively the next surrounding the cell. These elements have only importance as being media for establishing functional relations between the elements in the immediate neighborhood, inhibiting reflexes, equalizing stimuli and serving other purposes. The fact that they are very numerous in the greater part of the central organs and that we find them in the sensory organs point to their importance.

I have tried to give a brief description of the results, which have been brought out by modern investigation, which have been corroborated by experimental pathology and labor in the field of pathological anatomy. These results are not important alone for having furnished us with an anatomical explanation for the fact of which we had knowledge, also by physiological and pathological observation, that from the irritation of a single nerve fibre not only reflexes are liberated, but also sensation and common muscular motion can be caused. The most important and most essential point is that the nerve system is a series of independent cellular elements, each element bearing processes of varying length, the latter coming into no relation with each other save that of propinquity (Dercum). His has expressed an opinion that there is besides the cell of the glia and the nerve fibre an amorphous intermediate substance through which every stimulus has to pass when conveyed from one system to another. The existence of such an amorphous intermediate substance in the gray mass has been accepted and furnishes a medium which is very accessible to several influences, and judging from the peculiar distribution of blood and lymphatic vessels is liable to be influenced in its nutrition.

If we keep in our mind that each nervous function requires in every case at least two neurons, in the majority of cases more than two, that every impression conducted from one neuron to another has to pass through this intermediate substance then does it become clear that the normal nerve functions are essentially dependent on the normal condition and nutrition of this intermediate substance. How does this fact enable us to understand the fixed group of symptoms which we call neurasthenia? Mosso has discovered that the blood of fatigued animals contains some substance, which if injected into the system of other animals, caused symptoms of fatigue with them. He further found that in a fatigued muscle substances which we may call waste products accumulate, and by washing out such muscle with a three-fourths per cent. of salt solution and applying massage these substances produced by fatigue can be removed and the function of the muscle restored. By presuming an accumulation of products of fatigue can the exhaustion of the nervous system be explained. A long continued mental exertion fatigues the brain, headache is the first symptom, the causes of which are the waste products from the overworked nerve cells, or, as Mosso expresses it, the effects of the remnants of the waste material which contaminates the surroundings of the nerve cell. The attempt has been made without the intention of identifying the nervous functions with electrical current, to compare the corresponding nerve cells with the two metallic cylinders of a galvanic element. The intermediate substance, into which ganglion cells are imbedded, would correspond to the fluid, by which the metallic cylinders are surrounded. In the circuit when closed, the fluid becomes changed, at the expense of the metallic cylinder, the products of the change are deposited on these cylinders; in the same way the intermediate substance in the surrounding of the active nerve cells changes by the nervous function and is filled with products of fatigue. It cannot be stated how the intermediate substance changes, whether the capacity for conveying impressions suffers and a more rapid or slower condition of nervous currents takes place or how an increase or decrease of nervous irritability are active. It is questionable whether in the nervous organs something similar to polarization takes place. We do not know what is due to the effect of the products of fatigue or whether they as leucomains or ptomains cause an autoinfection. It is a fact that the changes caused by simple fatigue in the physical and chemical qualities of the nerves and muscles can easily be restored by rest, sleep and proper feeding while on the other side exhaustion as a more serious alteration of nutrition manifests itself as something of longer duration and which is not so very easily eliminated. **Krafft–Ebing** expresses it: Symptoms of fatigue varying with symptoms of cortical irritation become permanent when the central organs become unable to restore the balance between production and waste of nerve energy.

What alarming symptoms exhaustion very often produces, especially in cases of extreme cardiac exhaustion following unusually high ascension, every physician who has practiced in a mountain district knows. The fatigue and the condition caused by the same do not increase merely in the proportion of the energy spent, but in increasing progression, and here is the chief cause for the permanent, fixed exhaustion or neurasthenia. We can readily understand that cells which are imbedded for some length of time or permanently in a substance which has not the proper material for nutrition, are not qualified to reach the height and duration of activity as cells with good surroundings and in condition favorable to proper nutrition. The cells which are under unfavorable conditions must show change in size and shape. **Hodge** has described to what degree the cell changes under the influence of continued overexertion. **Arndt** has spoken of the existence of an impaired asthenic ganglion cell. **Apinow** and **Ladowsky** have given description of coagulative necrosis and formation of vacuoli in central nerve cells following long continued mechanical and electrical irritation of the peripheral nervous system. Considering neurasthenia an aggravation and fixation of normal, physiological symptoms of fatigue will lead us to this opinion, expressed by **Erb**, that neurasthenia has its anatomical basis in molecular changes of the central nerve organs. These changes are perhaps of chemical nature, affect the intermediate substance, but do not affect the size of nerve cells, neither the manner in which they are arranged. Inflammatory processes or such changes as these have been described as characteristic for paresis are entirely out of the question in neurasthenia. Thus can we explain the persistence and tediousness of neurasthenia.

From the fact that the brain is an organ richly furnished with blood we should infer that any kind of nutritive disturbances would easily be restored. **Krause** has estimated that the brain receives one-tenth of the blood of the ascending aorta though the weight of the brain is only one-fortieth of the weight of the whole body. Such amount of blood supply should be sufficient for removing all matter of fatigue and act as a kind of flooding process. After all we know that the mental function causes a flow of blood to central nerve organs when in function. But it is a fact that in neurasthenia no such thing occurs. **Kaan** has attempted to explain the complex of symptoms of neurasthenia from variations in the amount of blood in the cortical subcortical arteries, but his theory does not aid to facilitate the explanation for the particular circumstances which cause in a well nourished organ as the brain is the stubbornness of the symptoms. We know family traits, peculiarities of race and national character prove that some physical and mental qualities of our organism and with them all peculiarities of structure of brain and spinal cord, up to the most minute particulars are liable to be transferred by heredity. It does not matter whether such peculiarities belong to the normal or whether they have already degenerated, whether they are original or the product of gradual adaption. The ultrarefined condition of our present civilization and very likely of every previous higher degree of culture have produced a certain nervous condition, a neuropathic constitution, which is liable to be transferred to the descendents, and on such soil will thrive nervous affections, when other sufficient causes are present. The nervous affections will be of different nature according to special causes and the especial individual disposition. It is certain that the neuropathic constitution is a very important factor not only in the functional but also in organic diseases of the nervous system. Neurasthenia undoubtedly has its basis, in the majority of cases, in this inherited neuropathic constitution. On this basis does physiological fatigue show itself a great deal easier and undergo a pathological aggravation and fixation as we see in the group of symptoms called neurasthenia. The hereditary taint does not always and absolutely lead to the development of pronounced neurasthenia. The life of an individual with such an inheritance may be of such a manner that this disposition never becomes manifest. There are cases of decidedly inherited disposition wherein, in consequence of a well conducted life and other happy circumstances, not a single symptom of nervous affection becomes noticeable. Even the disposition itself can be exterminated. It is certain that marriage with an individual of good blood will benefit the next generation and lessen the disposition. It is an old experience, the history of decline of old families prove it, that marriage between near relatives and principally where parents on both sides are below par is against nature, leading to progressive degeneration.

The study of nervous diseases has taught us that heredity is usually direct and of the same kind, that neurasthenic parents have usually neurasthenic children, that hysteria in one generation means hysteria in the next, et cetera. But every experienced physician has certainly made the observation that in consequence of inherited disposition different forms of neuroses and psychoses occur in the same family. This fact speaks in some way for the near relation between these disturbances. Neurasthenia would then appear as the first move on a declining plane and as an affection which only in degree differs from other serious affections due to innate disposition. ARNDT holds that neurasthenia may pass over into tabes, progressive paresis, or other serious organic diseases of the nervous system. This opinion has not been accepted by all authors familiar with neurasthenia, although a neuropathic constitution may act as a moment favorable to the development of organic nerve diseases. MOEBIUS does not acknowledge a difference between functional and organic nervous diseases. He distinguishes between exogenous and endogenous diseases of the nervous system. While in the first class the conditions causing the disease are outside the individual and the individual is not liable to become affected unless a specific cause becomes active, as previous history of syphilis in cases of locomotor ataxia and progressive dementia, so in the second class the cause (the endogenous cases) is in the individual, in an innate disposition. According to this opinion would it be impossible that out of neurasthenia, locomotor ataxia or paresis could develop unless the further effect of a specific cause would take place. The majority of neurasthenic cases would show an innate disposition, but the latter alone is not sufficient to develop the disease; there must be some other factors producing the affection. We have to admit that neurasthenia without an innate disposition may be found in a perfectly robust individual. The causes may be for all cases alike, but still in some respects different, the circumstances have to be such that they lead to enfeeble the individual and to cause especially an exhaustion of the nervous system.

The more robust an individual and the less the innate disposition, the stronger the causes have to be and the less the liability for the individual to become affected. An individual descending from ancestors with history of pronounced disease will manifest traits to such an extent that minor causes will suffice for him to become sick.

If we want to speak of the causes of neurasthenia, then will it be necessary to mention those influences which work on the younger individual in the stage of development. Bad hygiene, serious diseases in childhood, improper education, overburdening in school, bad examples, overindulgence in amusement, in short all factors which lay the foundation for neurasthenia in later life and then developing from apparently minor causes. In adults overindulgence in *baccho et venere* stand in the foreground, to which comes excessive use of tobacco, mental and physical overexertion, poor fitness for the trade or profession selected, where very often incidental factors are deciding, improper division of rest and work, too high ambition, privation, worry, disappointment, surprises of happy and unhappy kinds, all these factors lead to the development of neurasthenia. Very often is neurasthenia observed where all external circumstances seem to be very favorable, where there is no direct necessity for any kind of work, nor a stimulus for striving for a position in life, but where a feeling of dissatisfaction in consequence of not having regular systematic work—very often the case with sons of rich parents—produces very serious symptoms of neurasthenia. Influenza is a disease which is more than any other infectious disease the cause of neurasthenia. The cases of neurasthenia following influenza are very serious, of long duration and not very readily yielding to treatment.

The course of neurasthenia is, with the exception of a very few cases, chronic and varying.

The prognosis is dependent more on the degree of the hereditary taint in the case, the duration of the symptoms, than on the seriousness of the symptoms. Ordinarily no danger exists, but it has to be kept in mind that the patient, on account of long duration of the affection with its sufferings, runs the danger of becoming a subject of improper treatment and of resorting to the use of injurious remedies, as morphia and alcohol, whereby the chances for recovery become slim.

The diagnosis and treatment of neurasthenia demand another discussion. I fear that I have already occupied by these remarks more time than our regulations allow, for which I ask your kind indulgence. It is my intentions to speak of diagnosis and treatment of neurasthenia in another paper, if I am sure that my remarks have been such as to be worthy of your attention.

GENU VARUM AND GENU VALGUM.*

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Only a few years ago were ranged under the title orthopedic surgery a few deformities which were looked upon as incurable, and were relegated to the care of the instrument maker. There the unfortunates were measured and fitted with some kind of contrivance which it was intended they should wear for an indefinite period, if not forever. Compare what could not be done even fifteen years ago with what can be accomplished today, and one is favorably impressed with the advances made in this branch of surgery.

For the few remarks which I have to make before the society this evening, I selected two forms of deformity which are of interest to the general practitioner as well as to the specialist. Indeed it is the general practitioner who usually discovers that a child is either bow-legged or knock-kneed. The family physician is the one who is first called in when the train of symptoms peculiar to the constitutional disease which is the cause of bow-legs or knock-knees first appear.

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*Read before the Detroit Academy of Medicine.

The child is usually found to suffer symptoms which are quite characteristic of the rickety diathesis, prior to the appearance of distortion of the bones. The most constant of these are restlessness at night, inclination to kick off the bedclothes, and very perceptible dryness of the surface of the body at the same time that the head and neck are bathed in perspiration. When the perspiration is wiped off it soon reappears in the form of large beads which seem to exude through the skin in circumscribed spots. The superficial veins about the head and neck stand out prominently in the skin. The head presents the square-shaped appearance of the fetal head, making the face appear unusually small. The fontanelles of the cranium remain open abnormally late, and the process of teething is delayed. A cribriform condition of the occipital bone is among the early bone changes noticeable. Derangements of digestion manifested in attacks of vomiting and diarrhea are not infrequent symptoms. The pot-bellied appearance of the abdomen and the prominence of the superficial veins of the skin over the same are quite characteristic of this disease. If to this be added enlargement of the superficial joints of the body, we have a fair picture of the symptoms which precede the development of genu varum and genu valgum.

At one time we were led to believe that the former trouble was due to a relaxation of the external lateral ligament of the knee-joint, and the latter to a relaxation of the internal lateral ligament of the same joint with abnormal contraction of the tendon of the biceps muscle. This being accepted as the true pathology of these deformities, the treatment consisted in applying braces which were intended to afford support to the weak ligaments and exert pressure over the point of greatest curve. When those appliances were used during the early period of the trouble good results were sometimes accomplished, but where these mechanical means were resorted to late in the disease very little good could be hoped for, although the braces might be worn for months and even years with great discomfort to the patients, and at the expense of the proper development of the muscles. Knowing as we do today that the cause of these distortions consists in a softening of the bones, it can be easily understood why splints could be effectual in remedying curves of the legs when they are first noticed, and why they have not such effect upon cases of long standing when it is remembered that the rickety diathesis often cures itself spontaneously after the fifth or sixth year, and the bones then resume their normal hardness and cannot be influenced by the ordinary bow-leg or knock-knee splint.

For these advanced cases nothing short of an operation will accomplish the desired result, and it is unfortunate that in private practice it is so difficult to get parents to consent to any operation. They prefer to have the child wear unsightly and cumbersome braces for an indefinite period, rather than subject him to the harmless operation of breaking or cutting of the curved bones. In hospital practice we have long ago dispensed with the purchase of costly braces. We generally cure the worst forms of cases in from four to six weeks. The method adopted is the following:

For bow-legs the tibia and fibula are severed at the point of greatest curve, the skin being first punctured; then using my periosteum elevator, that membrane is raised from the bone; then an Adams saw is inserted in its tract and the bones are sawed subperiosteally. Generally it is sufficient to saw only the tibia, the fibula, on account of its small size, being easily broken.

For genu valgum I generally resort to section of the lower end of the femur a little above the epiphyseal line (MacEwen).

The limbs in both cases are put up in plaster of Paris bandages, which are allowed to remain undisturbed for three weeks unless an elevation of temperature should supervene, when at the end of that time union will generally be found firm. For the sake of safety the patient is generally kept off his feet for one or two weeks longer.

BICYCLING: FROM A HEALTHFUL STANDPOINT.

By THEODORE R. MacCLURE, Lansing, Michigan.

WHAT is more to be desired than health? Health is the road to wealth, and and it goes without saying that no condition moral, social or financial, of the human being should be sought for more than a healthful condition; for, if he has health, he will have wealth, and consequently a moral and social condition satisfactory to himself and to others.

A healthful condition is attained in various ways. Those who are employed out of doors secure their exercise without conscious effort, but there are the classes who are employed indoors, who do not get the requisite amount of fresh air, and require outdoor, invigorating exercise to attain that healthful condition. What the office man requires is moderate exercise, in the fresh air, and not the athletics of the gymnasium which are generally of a violent nature and leave the individual weak for several hours after indulging, and may produce functional derangement or organic change in the body, especially of the heart and lungs. For this class bicycling is especially beneficial.

That bicycling is a healthful exercise when properly and moderately indulged in, there can be no question. It is the same as any other kind of exercise properly indulged in; there are certain ones who will abuse it and thus injure themselves. However it is gratifying to say that those who do abuse it are in the minority; and that minority will decrease as time increases and education along this line becomes more general. But as the wheel has come to to stay, people will in time be educated and will know when they are abusing the use of the wheel, and will learn to use it with more moderation.

In this portion of my paper I will endeavor to point out some of the ways in which the abuses *may* occur. There are certain features of wheeling which may become detrimental to the health of the individual; but, in general there is no form of exercise, to my knowledge, that is so beneficial and at the same time so enjoyable to the participant.

AS A GENERAL EXERCISE.

The value of a moderate form of exercise cannot be overestimated. It is to be regretted, but it is nevertheless true, that up to within the last score of years a regular systematic physical exercise was practiced but slightly by our men and women. To many, exercise is hard work and sometimes even drudgery; but if judiciously prescribed it is worth much as a curative agent, and especially is it valuable in nervous disorders. Health of the body and health of the mind go hand in hand; without a healthy constitution it is difficult to obtain the best intellectual results. Regular and systematic exercise promotes a healthy development of all parts of the human body and therefore produces better mentally developed men and women; but, if indulged in to excess must and will eventually lead to a breaking down of the physical system.

No method, device or mechanical contrivance has been nor will be so conducive to physical development as our "silent steed" the bicycle. One of America's prominent physicians speaks of the bicycle as the "great calisthenic of the world." An eminent physician has gone so far as to say that "not in two hundred years has there been any one thing that has so benefited the human race." It has been said that the wheel develops only the muscles of the arms and legs, but this is not true; the whole muscular system improves under its influence. If properly indulged in, there is no exercise that causes such a general invigoration and development of the different muscles and parts of the body. If used in moderation, better respiration, better heart action, better physical development in every way results. It banishes aches and pains, brightens the intellect and makes better men and women physically and mentally; and, upon these conditions of our citizens, depends the success of the nation. It builds up a vigorous constitution, a condition which tends to keep the individual free from pains and disease.

WRONG USES OF THE WHEEL.

The abuse of the wheel will be discussed under the following heads, in order to give the cyclists some idea in what that abuse consists, but in no way to discourage its judicious use.

To just what extent a person can use the wheel without abusing it, will depend largely upon the individual. Individuals differ; some are naturally weak and delicate; others are strong and healthy. No rule can be laid down that will govern all cases. Providing there is no organic trouble with the heart and lungs, any exercise short of fatigue will probably be healthful. If there be any question concerning the amount of exercise that a person can indulge in without deleterious effect, it would be money well spent to consult some able physician who can make a thorough physical examination of the heart, lungs, et cetera, and thus be able to give intelligent advice.

THE INFLUENCE OF AGE.

Bicycling is an exercise which may be indulged in by persons of nearly every age, and by nearly every class. Of course there are two extremes, the very young and the very old. It is ridiculous and absurd to think of placing a very young child on a wheel, and especially a "safety" bicycle. It has recently been stated that Alabama claimed the youngest bicyclist, a little girl three years old, who rides a safety 14 inches high. Such toleration by the parents needs no comment.

It is believed that girls at ten and boys at eight are about the earliest periods that they should be permitted to ride the bicycle, and then under restriction, because of the occasional unmatured condition of bones, organs, heart, et cetera. The tricycle will do up to that age. The great trouble is, that it is difficult to regulate the use of the wheel in such young children; in fact, it is difficult to regulate the wheel in some children at any age.

It has been claimed that the wheel for young men about the age of puberty and for girls just budding into womanhood creates abnormal excitement of the sexual organs and thus causes injurious results, but there is no reason why this should occur if proper saddles are selected, and it should be the duty of every mother and father to see that their boys and girls do not ride on saddles that in anyway interfere with the natural condition of the human organism. It would be well for the parents to keep close watch; and, if necessary, from time to time question their boys and girls concerning the saddles they use. It ought not to be difficut to ascertain whether or not the saddle is a proper one, without creating any feeling or suspicion of immodesty in the child.

THE BICYCLE AND THE MORTALITY FROM CONSUMPTION.

It has been shown by statistical evidence that consumption, that great destroyer of mankind, is decreasing. Just what relation this diminution has to the use of bicycles cannot be definitely ascertained. DOCTOR SAMUEL W. ABBOTT, secretary of the Massachusetts State Board of Health, and a prominent sanitarian, speaking of the decline of tuberculosis in Massachusetts, says: "The rate in 1851 was 1,451 females to 1,000 males; in 1890, 1,055 females to 1,000 males; and in 1895, only 974 females to 1,000 males. In 1895 was the first year in the history of the State in which the number of deaths from phthisis in females was smaller than in males."

The fact that there are usually more deaths from phthisis in females than in males, and the fact that of recent years this condition is reversed, leads one to think that there is some relation. Of course it would be impossible at this time to show any direct relation between this changed condition and the use of the wheel. It is well known that bicycling causes a vigorous constitution, and vigorous constitutions are less susceptible to contract tuberculosis than are weakly, delicate ones. The lungs are put through a gymnastic exercise which could not fail to do good. The deep breathing tends to clear up slight lung lesions, and incipient pulmonary tuberculosis has been supposed to disappear under its influences. In my mind there is some relation between the reduction in consumption and the advent of the bicycle. However, considerable credit should be given to the faithful work of the sanitarian. Just previous to 1895, initial steps for the restriction of consumption were taken. The Michigan State Board of Health was the first State authority to declare consumption a dangerous disease; New York city having taken the initiative steps. This action was taken in 1893 and immediately similar work was taken up in various parts of the country. Great effort was made to educate the people just how the disease was spread and just how it could be prevented. If the facts were known, consumption has probably diminished in many states.

In a recent report to the Mayor, the New York City Board of Health declares that as the result of three years' restrictive work in that city the mortality from pulmonary tuberculosis is now 30 per cent. less than it was twelve years ago.

In Michigan the mortality from consumption has decreased considerably. This decline seems to have been more apparent since 1888, about the time the Michigan State Board of Health undertook to educate the people how the disease was spread and how it could easily be prevented.

RHEUMATISM AND GOUT.

The writer has frequently observed that cases of rheumatism, are markedly benefited by riding a wheel. Just what reason there is for the improvement, cannot be definitely stated, because of the various theories concerning the etiology of rheumatic trouble; but that there is improvement, and in many cases entire relief, there is no question.

It seems to be conceded by those who have given the subject most attention that there is really no great difference between gout and rheumatism, the two conditions being produced by the same cause, namely, a sub-normal elimination of uric acid, the rheumatic or gouty pains coming from a deposit of the urates in certain portions of the body.

To these urate deposits **Mordhorst*** gives the name "needle urates." In appearance they are something like a chestnut burr, but of course microscopical in size. When these are deposited in a muscle or joint, it can be easily conjectured how they may cause pain, irritation, and inflammation. **Mordhorst** further remarks "sodium urate is only deposited in those organs and tissues which are sparingly or not at all supplied with blood-vessels, and the nutrition of which accordingly takes place only or principally by means of lymphatic vessels or lymph spaces. The connective tissue of muscles, fascia, tendons, tendon sheaths, nerve sheaths, ligaments, cartilage, perichondrium or periosteum are almost exclusively the seat of gouty affections."

Haig and others have found that there is a constant relation between the amount of urea and uric acid that is eliminated. There is a slight difference of opinion as to the exact relation, but it is believed that one part of uric acid is excreted to every 33 parts of urea. Any condition which will increase the excretion of urea will tend to increase the amount of uric acid excreted, and thus prevent deposition in the body. The diet seems to have a direct bearing upon the amount of urea eliminated. **Lehmann**† concludes "that the amount of urea which is excreted is extremely dependent on the nature of the food which has been previously taken. On a purely animal diet, or on food very rich in nitrogen, there were often two-fifths more urea excreted than on a mixed diet; while, on a mixed diet; there was almost two-thirds more than on a purely vegetable diet; while, finally, on a non-nitrogenous diet, the amount of urea was less than half the quantity excreted during an ordinary mixed diet." **Flint*** states that alcohol and tea and coffee also have a tendency to retard the elimination of urea.

**London Lancet,* July 17, 1897, pages 132–136.

† "Flint's Physiology," fourth edition, page 378.

Uric acid contains more nitrogen than does urea. Many observers have proved that the amount of nitrogen eliminated during work or exercise was in direct relation to the amount of work. Probably this fact accounts for there being less urates deposited in persons having healthful exercise.

Another more likely explanation of the beneficial influence of exercise, is the fact that muscular fluids after moderate exercise become alkaline thus causing a condition more favorable to a dissolution of uric acid. It has been shown by HAIG that exercise keeps down the acidity of the urine and at the same time increases the excretion of uric acid.

HAIG* found that in the cold months of the year, the acidity of the blood tends to be high, because of little loss of acid in the perspiration and through the urine, each being excreted to a less amount during colder months. HAIG has also pointed out a constant relation between acidity of the urine and the retention of the uric acid, both tending to rise and fall together. Any condition which tends to diminish the solubility of uric acid, tends to retain and accumulate it in the body. As the uric acid tends to remain in the body when the urine is highly acid, and the perspiration of summer tends to reduce the acidity of the urine, then the summer tends to reduce the retention of uric acid. It is well known that gouty and rheumatic patients have less trouble in the summer than in the winter. And it is also undoubtedly true that if sufficient exercise were to be had in the winter, the cold months would not be attended with so much rheumatic trouble. While according to HAIG exercise keeps down acidity of the urine, and increases the excretion of uric acid, it must be borne in mind that the reason of less acidity in the summer is due to the excretory function of the skin and kidneys during that season of the year.

Here again it is shown the necessity of out-door exercise, where oxygen can and is more freely taken into the system through the lungs. The action of the lungs and heart increase under muscular exercise, and the blood receives more oxygen which is sent rushing through the arteries to every tissue of the human system. Oxygen stimulates the blood, and in connection with muscular exercise increases the quantity of blood. If rheumatism is caused by a germ as is claimed by some authorities, the beneficial results experienced after moderate exercise has probably a direct relation to METSCHNIKOFF's theory of phagocytosis. A stimulation of the blood's activity may render such a condition favorable to throwing off the poisons that may be excreted by the germs. This same argument may also hold true as regards the ability of the blood to throw off or dissolve the urates deposited in the various tissues. Exercise certainly stimulates every fibre and tissue in the body by a stimulation of its blood supply.

It is important that exercise be regular and even in order to produce the most beneficial results in rheumatic trouble. Make the exercise regular, increasing the amount slowly in order not to cause exhaustion; especial attention should be given the regularity of exercise in persons past the prime of life, because as age advances the muscular activity tends to decrease and requires greater effort to keep the muscles in active working condition. Over exercise might be the cause of a rheumatic attack especially if an abnormal condition like chill, et cetera, were encountered after violent exercise. Then again it is equally as important that during a long ride sufficient water shall be taken into the system at the proper time, in order that perspiration may go freely on, and that the human body may receive the amount of water required to carry on the combustion and extra work devolved upon it during exercise, and cause a thorough flushing of the system thus aiding in eliminating waste material.

The fatigue after violent exercise, HAIG attributes to the excess of uric aci formed that would have been carried off by a preceding continued exercise Hence the importance of being in training and taking regular, not excessive, exercise.

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*HAIG: "Uric Acid in the Causation of Disease," second edition, and *British Medica Journal*, 1896.

[TO BE CONTINUED.]

A REPORT OF A CASE OF SARCOMA.*

By THEODORE A. FELCH, M. D., Ishpeming, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE patient was first shown me eleven years ago, when ten years of age, having a rather small well-defined soft tumor on his breast whose centre was just above and to the right of the left nipple. His appearance was somewhat anemic but he did not complain of pain or discomfort except a slight tenderness when the parts were handled. In the course of two weeks the overlying integument became of dusky hue and the tumor seemed about to suppurate when, the patient accidentally falling down stairs, the skin was broken and quite a profuse hemorrhage from the parts took place. There then commenced a slowly progressing necrosis of the skin from centre to periphery, and as the skin disappeared its place was filled by masses of exuberant granulations which bled easily on touch and from which constantly exuded a sero-sanguineous fluid. The illustrations, made from photographs taken at the time, show the condition very well. After a while these granulations disappeared, the ulcer took on a healthier appearance, and in one year's time the surface was entirely covered with cicatricial tissue and so remains to this day.

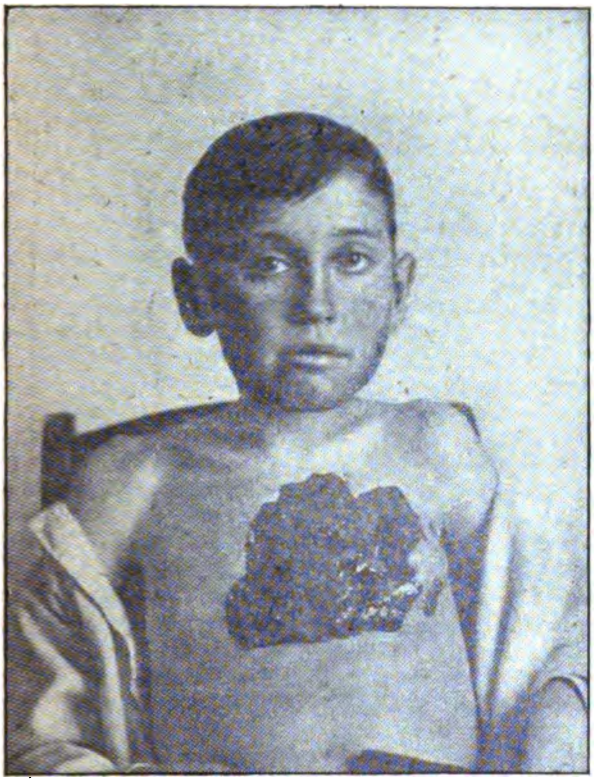

Figure I.

Patient's health remained good and he went to school and engaged in all the sports of boyhood. Later he learned the butcher trade and worked hard in many ways. About the first of this year he began to feel debilitated and called my attention to a swelling on the upper outer aspect of his right thigh. This tumor repeated the course pursued by the first and now looks exactly as the one in the engraving and I believe it to be of the same nature. I have called this a case of sarcoma. That was the diagnosis at the time by more than one medical gentleman and the diagnosis was confirmed by no less an authority than Doctor Christian Fenger, of Chicago, who twice submitted portions of the tumor to microscopic tests and also saw the patient in person, giving a very unfavorable prognosis.

A sarcoma has been called a semimalignant growth, but it is a well-known clinical fact that the round-celled sarcoma is one of the most malignant of growths. On the other hand there are growths corresponding to the embryonic elements of sarcoma which are benign in character. Virchow calls attention to the melano-sarcoma in horses. It is a well-known fact that white and gray horses are especially subject to these tumors, which appear principally on the tail or around the anus. These tumors have not the malignant course that similar tumors have in man and ordinarily do not reappear after complete excision. A tendency to the development of these tumors is transmissible to a high degree, especially by the stallion, the offspring, both male and female, especially those of a whitish color, being liable to it. **Virchow** sees in the absence of color in such horses a weakness or lack of resistance in the skin. ("Reference Handbook").

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*Read before the Upper Peninsula (Michigan) Medical Society.

The spindle-celled and myxo-sarcomata are in general only malignant locally. But we know clinically that the site of the growth aside from its histological elements exercises a most important influence in the prognosis. In our case the growth sprung from the pectoralis major, which I find is one of its favorite locations. After attaining its maximum growth the granulations disappeared and cicatrization commenced. The theory of **Cohnheim** supposes that more embryonic tissue is supplied to a part than the subsequent development of the parts require and this unused tissue may take on a sarcomatous or carcinomatous growth. Possibly the excess of embryonic tissue at this point exhausted itself in excessive growth and the neighboring parts were not infected.

Why should this secondary ulcer occur on the thigh? Sarcomata extend most frequently by direct extension, next by the blood-vessels, and sometimes by the lymphatics. **Councilman** says that the cells not only have an extreme degree of proliferative energy but the tissue of the sarcoma . . . favors this outward growth of the cells. In addition to this direct outward growth of cells into the tissue, it is very probable that the cells of many sarcomata have the power of ameboid movement. This would explain the presence of small foci separated by a greater or less interval from the parent tumor. **Virchow** advances the view that the sarcomatous cells can excite the cells of the tissues with which they come in contact to a similar growth. This can take place both about the original tumor and in those places where the cells may be carried by the blood and lymph currents. Most of the recent authors do not accept this view as to the mode of formation of secondary tumors but believe that these result from a direct growth of the cells or collection of cells which have been carried from the tumors and deposited in distant organs. ("Reference Handbook").

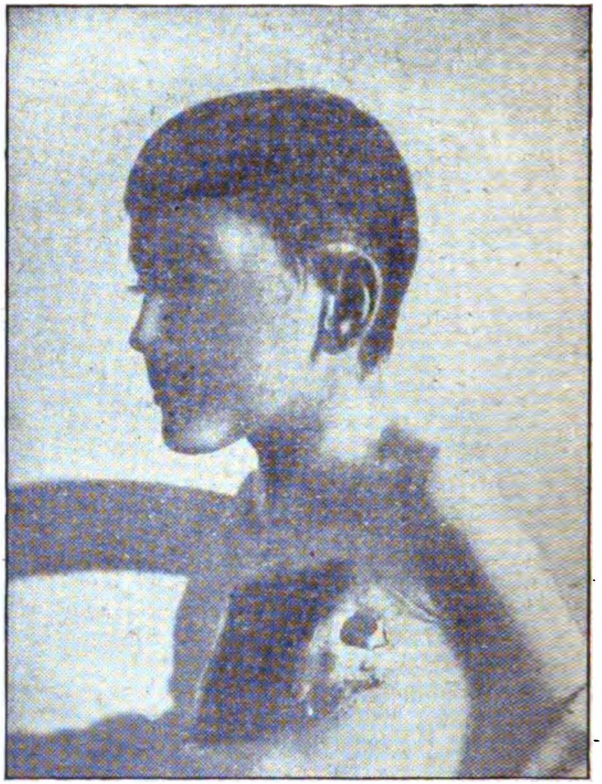

Figure II.

Now, as to treatment. In this case the conditions precluded operation. Arsenic was recommended but little of it was taken. About this time my patient was persuaded by friends to take a certain patent medicine which is reputed to contain large doses of potassium iodide. He took many bottles. Concerning the use of iodides in sarcomata we are reminded of a remark attributed to **Billroth** that in his earlier experience he knew of and practiced but one method—total extirpation, but seeing cases which refused operation get better under the iodide treatment he had modified his practice materially. Therefore, we must admit that either iodide and arsenic have some influence on growths classed as sarcomata or that our methods of making a diagnosis admit of errors. But one more means of treatment need be spoken of—that by the use of toxins. Upon the benefit accruing from the use of toxins there is great diversity of opinion. **Shirely** says notwithstanding its possible dangers, and the uncertainty of its action, the toxin treatment constitutes at present our only therapeutic resource for inoperable malignant disease, having well authenticated cases of recovery to its credit. On the other hand the committee from the New York Surgical Society says, finally and most important, that if the method is to be resorted to at all it should be confined to absolutely inoperable cases.

TRANSACTIONS.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, FEBRUARY 8, 1898.

The President, DAVID INGLIS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor W. P. Manton read a paper entitled "Two Obstetric Lesions." (See page 394.)

Doctor Maire: I am always interested in subjects along this line. Years ago little attention was paid to cervical operations, and the early operations were novelties. A headache in a married woman, especially if located in the top of the head, or in the occiput, is frequently a case for the gynecologist instead of the eye specialist, while a pain over the eyebrows is more likely to be connected with eye strain.

Doctor Campbell: Some thoughts have occurred to me with regard to the academy. It makes us often think along unusual lines, and the eye man does not often think along this line. The eye man handles cases of neurasthenia and the gynecologist does so as well. Nervous prostration requires not the correction of eye refraction alone, or of cervical and perineal tears, but the correction of all. Correction of eye trouble may relieve for a while, but frequently the patient needs further patching up. The great mass of physicians allow the defects to go too long uncorrected before repair is made.

Doctor Hitchcock: It is refreshing to hear a gynecologist take the position that departure from mental state is not due to trouble with the genital tract. Neurotic women have been said to get their nervous trouble from reflex trouble in the ovary, the cervix and the perineum. There are some well-known irritations from these organs. I should like to ask how early **Doctor Manton** repairs tears.

Doctor Bigg: From the standpoint of the general practitioner I recognize valuable hints. These troubles often result from ignorance and neglect of the physician. It is next to impossible to deliver women without damage to cervix in cases of rigid os. In some cases, even after a wait of twenty-four hours, we get more or less damage to the cervix. The subject, however much discussed, is ever new and practical.

Doctor Winter: I agree that every woman receives more or less injury to the cervix. There is only one rule to follow in tears, namely, leave the cervix alone at the time of delivery and repair it in a few months, but repair the perineum at once, within twenty-four hours. I have had no perineum that has not healed satisfactorily. I never leave to nature to heal what will take but a few moments to repair. While some claim that the parts are numbed, and stitches can be taken without causing much pain, I have never seen such cases, and I usually have to give chloroform.

DOCTOR ROBBINS: I have two questions—(1) What is a laceration of the perineum? When it goes through the skin of course it needs a stitch. (2) Does an erosion of the cervix always mean a previous mechanical injury? Can a nullipara have a cervical erosion?

DOCTOR WILSON: There is no question as to the importance of these lesions. I have repaired many lacerations of the cervix and have failed to get bad results. I agree with DOCTOR WINTER that primary repair of the perineum cannot be done as it should be without chloroform. I have never repaired a cervix directly after delivery, for in examining the cervix after confinement I have been bothered to find what seemed large after the birth of the child. Yet I repair months afterward, and even a few weeks afterward. Many cases have had extensive laceration, yet I have always regarded them as well. Some were in women who were aborting all the time. While unskillful manipulation causes tears, the worst I have seen have been in those who have had no attendant, hence if the doctor had been there he might have been credited with the tear. We should, therefore, always be considerate about what we say of a tear when accrediting it to other doctors.

DOCTOR DUFFIELD: In the paper a year ago by DOCTOR MANTON he recommended some aseptic suppositories. I have used them, and since then I have had better recoveries. Yet prolonged lying in bed after confinement—longer than two weeks—is extremely useful. I insist on this in all cases wherein I can do so.

DOCTOR H. D. JENKS: In a series of one hundred consecutive cases examined the thirteenth day after delivery, one case only showed no cervix tear, the remainder all showing more or less extensive unilateral or bilateral tears. About twenty per cent. of the cases were low forceps deliveries, the remainder being more or less simple ones. A large proportion of these cases were primiparæ. Almost the same proportion was found in a second one hundred which I helped examine in the same way, but did not deliver.

DOCTOR CONNOR: The relation of one organ to another is interesting. A patient of mine after reading one half hour will develop intense tinnitus aurium in the right ear, but she is of a nervous make-up. Cases of middle ear trouble are always helped by correction of ocular defects. There is likely to be a disturbance at the next weakest point when one irritation is removed.

DOCTOR INGLIS: DOCTOR MANTON'S attitude is conservative and just. I am convinced that if all obstetricians put in practice the best obstetrical practice of today, as, I believe, DOCTOR MANTON has outlined it, many women would be spared years of suffering. The careful and courageous obstetrician habitually lives up to this standard, yet we must be equally careful in forming harsh judgments of our brother physicians when we find bad lacerations. In the first place such accidents occur in the practice of the most careful obstetricians. It is not a question of the physician's skill alone, but one of anatomical structure and relations. So, too, an unrepaired laceration is not always an evidence of neglect on the part of the attending physician. Before condemning some preceding doctor, let us be certain that he did not advise the wise treatment; patients frequently are quite as culpable in refusal as doctors in neglect. Furthermore, while it is true that a bad tear may set up severe nervous disturbances, it is also true that multitudes of women go through life absolutely free from nervous troubles with equally bad tears. And it is true, too, that when a woman has nervous troubles and a bad laceration it by no means follows that one is the cause of the other. Indeed it is often a very grave error to operate for a laceration in a hypochondriacal woman. The reason is this: The idea is spreading generally among women that nervous troubles are caused by pelvic irritation. If, now, a woman becomes possessed of the idea that all her wretched nervous depression, her woes and her pains proceed from her pelvic trouble, she centers all her hopes in life upon an operation. The operation may be done and the laceration cured, yet the nervous symptoms remain as bad as ever. If she was wretched before, she abandons all hope now. It is useless to argue with her now that the fundamental difficulty was not in her uterus, but in the nutrition of her nervous system. The fact that a surgeon went so far as to operate on her uterus is an overwhelming argument which fastens her belief in the uterine defect as being the cause. The last remedy has been tried and has failed. Hope is gone. On this ground I doubt very much the wisdom of operating on some strongly hypochondriacal women. You may even carefully explain beforehand that you operate only to remove a *possible*, not a certain, cause of the nervous trouble, still the patient will argue it out as I have described.

Doctor Manton: I see a short paper brings out a free discussion. In spite of Doctor Connor I have seen cases wherein there was a reflex from the pelvic organs to the eye. I was struck with Doctor Campbell's remark. I do not wish to say that these lacerations are productive of nervous trouble, for we may have severe lacerations and no trouble. But let the patient become run down and then she will have trouble. It is necessary in treating local conditions to treat general conditions as well. Do not think that suturing will cure everything. I do not believe the cautious man will lead patients to expect great things. I should say to Doctor Hitchcock that a cervix should not be repaired within the puerperal month. I believe every primparous woman has cervical lacerations, yet eighty per cent. of them will heal spontaneously if we exclude septic infection. In two of my cases the circular artery has been torn, and one stitch at once closed the wound. You may have erosions under all conditions when there is a good deal of cervical catarrh. I repair lacerations when the fibers of the levator ani muscle, or the perineal fascia is involved. One can neglect the skin and perineal muscles. I have seen no case of insanity which I regarded as the direct result of a laceration. Yet when weakened from other causes the laceration makes the insanity worse, and decided improvement can be expected when the trouble is removed.

STATED MEETING, APRIL 26, 1898.

The President *pro tempore*, A. D. HOLMES, M. D., in the Chair.

Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Daniel LaFerté read a paper entitled "Genu Varum and Genu Valgum." (See page 409.)

Doctor Maire: While I have had no experience in this line and cannot discuss the paper intelligently, yet it would seem the method of simply loosening the periosteum and cutting with a saw would simplify the operation very much. The results seem to be superior to the older mechanical methods, by instruments, which are terrible to contemplate.

Doctor Wyman: I am sorry to have missed the method of managing the elongated internal condyle in knock-knee. As regards mechanical devices, I believe the success by their use has been more from the general treatment than from the apparatus. I have had the rachitic deformity in other parts of the body where an apparatus could not be worn, and I have treated it by massage and manipulation and the internal administration of salts of lime. In all cases the crooked bones straightened out well. I remember a patient four years of age whose arms were bent at a right angle, whose legs made almost a complete circle, whose head was cuboid-shaped, whose clavicles were badly bent, that I treated in this way. Now, after a lapse of six years, these have all straightened out, and the child has normal extremities. The natural tendency is for the patients to terminate in improvement. Bow-knee is more common in the South, and it is not uncommon to see extreme cases in the colored, yet few have any treatment, but a majority outgrow it. While there may be spontaneous recovery, it is important to do something or the deformity may persist. My experience with the osteoclast has not been satisfactory. I usually place the bow flat on a table, and then apply force enough to fracture the leg. The bones divide without separation and the periosteum is only slightly torn on one side. No overriding is possible; the objection to the open method is the complete separation of the parts.

DOCTOR E. W. JENKS: It would seem as though these deformities were racial in the colored, like the flat tibia and long os calcis.

DOCTOR F. B. WALKER: A point of importance to remember is that splints are valuable in the young only. After the bones are formed they are not indicated.

DOCTOR H. D. JENKS: At one time I assisted at a large number of bone operations of this sort and did some myself. When possible the osteoclast was used for bow-legs, but in cases with a sharp curve in the tibia the osteotome was used instead. Osteotomy was always performed in knock-knee. After four weeks in plaster casts the legs were fitted with irons and these were continued for a year or more. By this method relapses were uncommon. Cases with yielding bones were fitted with the irons and no operation attempted. A large number of the cases occurred in the Italian and colored races. Most of the children were breast-fed but very early had been fed from the table indiscriminately. They also were nursed from twelve to twenty-four months.

DOCTOR LAFERTÉ: In hospital work I operate even when the bones can be straightened by gentle force. I use the internal medication, salts of lime and cod-liver oil. Nine out of ten cases that we see are in negroes. I leave the internal condyle alone. When the bone fractures there is a triangular space within the periosteal casing which must fill up.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, FEBRUARY 23, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR JOHANN FLINTERMANN read a paper entitled "Neurasthenia." (See page 402.)

DOCTOR HITCHCOCK: We are all indebted to DOCTOR FLINTERMANN not only for his very interesting paper on the subject of neurasthenia, but also for the very able review of the elements of the neuron theory. The paper has been too exhaustive to warrant me in even attempting a lengthy discussion. The subject is too complex to cover satisfactorily in that way. I might refer briefly to some points in the paper. I think it is often true that when patients really in a neurasthenic condition have some intercurrent disease the neurasthenic condition is very apt many times to be overlooked, and the surprising want of response to ordinary treatment is very easily explained when this fact is overlooked. I have in mind at the present moment the case of a lady who, in my judgment, has long been in a neurasthenic condition. She has had in the meantime a number of intercurrent troubles necessitating a long course of treatment at the hands of the general practitioner, and is now undergoing a line of treatment at the hands of a stomach specialist. It may be a matter of gratification to know that DOCTOR VANDEUSEN first wrote of this trouble even before BEARD. DOCTOR VANDEUSEN was a very able and painstaking asylum officer, the earliest Superintendent of the first State Asylum in this State. I do not understand entirely the class of cases the German authers write about. They seem to think that the disease is due to defective development. We all, I am sure, know neurasthenic patients who have only suffered for short periods with neurasthenia, and who, having proper treatment, are restored to a normal condition. Now, that very fact seems to preclude the possibility of any such theory resting on a solid foundation. Such a theory might hold possibly in a certain class of cases; for instance, that class of cases who are neurasthenic by heredity and who never arrive at the normal condition. But the ordinary neurasthenia as we see it in American business men and in American women seems to me to be a different sort of disease. These last cases would perhaps be covered best by that classification of one of the German authoritities to whom the doctor referred, who placed the neurasthenic condition on a middle ground between the normal and the well developed neuroses and psychoses. On the other hand we do often find cases in which the neuroses and psychoses are well developed and yet such cases make a good recovery. DOCTOR FLINTERMANN's reference to the neuron theory is interesting and profitable. The theory is not so difficult as it seems and yet it grows complex when followed into details. The establishing of the nerve cell and its process, namely, the neuron, is the basis of the theory. Then the theory differs from our formerly held ideas in this, that nerve conduction is by contiguity rather than by continuity. The fact that this is so adds complexity somewhat to the tissues involved in a disease such as this wherein nervous functions generally are so much impaired, for it is to be borne in mind that many neurons may be involved in the performance of any one nervous function, and so the path from periphery to centre involves many cells and their processes instead of the old theory which we were accustomed to follow in former days, believing impressions were conveyed by one fibre from the periphery through the cord up to the centre while an impression originating in the nerve centres passed down through the cord and out to the periphery. That theory seems to be pretty well done away with by recent investigation.

DOCTOR W. S. ANDERSON: As the doctor spoke of the theory of fatigue in connection with this affection I was reminded of a series of articles that I read several years age written by DOCTOR HAGUE on the experimental study of fatigue. The doctor took a number of animals, for instance, he would take pigeons and allow them to fly out in the morning and after being out all day on their return at night he would kill them and after making sections of portions of the brain he would make microscopical examination of these sections. He found that there was an actual histological change in the individual cells of the brain. In the same way he would take other animals, for instance, dogs, and allow them to exercise for a considerable time, and on microscopical examination of brain section he found similar histological changes to those in the previous experiments on pigeons. He then tried stimulation of the different areas of the brain by electricity, making sections first of one-half of the brain and then the other and he found changes similar to those found in the other animals. His theory was that old age consisted in the fact that our brain cells were less able to withstand the strain. It occurred to me that perhaps neurasthenia was nothing more than a permanent physiological change—the cells become exhausted.

DOCTOR WALMSLEY: The doctor did not mention any of the traumatic lesions, such as railroad spine, which I believe comes under the same head and would explain to a certain extent some of the theories. In railroad spine we have a sudden neurasthenic state brought about; the shock disturbs the nerve cells and produces the poisoning that the writer of the paper describes. After the doctor had concluded his paper the whole subject simmered down to the necessity for restoring healthy blood. I think we can do more for these cases by proper diet and proper attention to the alimentary canal than by medicines.

Doctor Warren: It seems to me that this paper is especially valuable now when we have come to use the word "neurasthenia" so loosely. Even sometimes I think neurasthenia has become a sort of peg on which we hang our ignorance of some pathological condition. It has always seemed to me that the basis of neurasthenia was a neuropathic element in the individual. Of course every individual has his breaking point. People will stand so much strain; some will stand more than others. In considering neurasthenia in an individual we must consider first what he may have inherited, and next what condition of strain he has been subjected to, and it is only in this way that we can determine all the factors which have been causative in each particular case. We shall all look with a good deal of interest to hearing from Doctor Flintermann in regard to the treatment of this condition.

EDITORIAL ARTICLES.

CUBA AND ITS CLIMATE.

Our notions regarding the climate of Cuba, generally derived as they are from isolated and unofficial sources, are necessarily somewhat vague. On this account a cursory review of the subject may not at this time be uninteresting nor uninstructive. In view of the high mean temperature and excessive humidity of this region the importance of the constant winds should be noted.

The West Indies, comprising more than one thousand islands and a land area of about ninety-five thousand square miles, lie practically between the tropic of cancer and the tenth parallel of north latitude, and between the sixtieth and eighty-fifth meridians of west longitude. Cuba and its dependent islands occupy about forty-three thousand square miles. It measures seven hundred and thirty miles in length by eighty in breadth. Its highest point, the peak of Pico de Tarquino, is seven thousand six hundred and seventy feet high, but, generally speaking, the undulating surface has a slightly variable elevation of about three hundred feet above sea level.

Accurate knowledge of the climate of Cuba appears to be somewhat meagre. According to W. F. R. Phillips (*The Sanitarian*) systematic meteorological observations have been made and published for any considerable period from only one point, the observatory of Balen College, Habana. According to these reports the average annual temperature at Habana during the years 1888–1897 was 77° Fahrenheit with an extreme range in annual averages of only 1.1° Fahrenheit. The average temperature for July, the warmest month, was 82.4° Fahrenheit, with an annual range of 1.8° Fahrenheit. January was the coldest month, and had an average temperature of 70.3° Fahrenheit, with a range of 5.9° Fahrenheit. The highest recorded temperature was 100.6° Fahrenheit and the lowest 49.6° Fahrenheit. A record for two years at Matanzas, fifty miles distant, gives a mean annual temperature of about 78°. On the southern coast, Santiago, it appears, has a temperature of about 80° with a range of about 6° Fahrenheit between the warmest and coldest months. Reports from two interior points indicate a mean annual temperature from 2° to 4.4° lower than on the coast, due according to Mr. Phillips, to differences in altitude and position with respect to the prevailing winds of the zone. He quotes Humboldt as stating that temperature changes occur suddenly and mentions one instance of a fall of 15° within three hours. The temperature is highest between noon and 2 o'clock in the afternoon, and lowest between dawn and sunrise. The mean daily range is about 10°.

The atmosphere appears to have a relatively constant humidity of about seventy-five per cent. of saturation. Although the monthly range in humidity is inconsiderable, the daily range of relative humidity varies from about eighty-eight per cent. in the morning to about sixty-four per cent. at noon. In the rainfall there is shown the influence of locality and season. At Habana, which, in this instance, means Cuba, the rainfall extends from the last of May or first of June to the last of October. In some other portions of the West Indies it begins a month earlier. In Cuba it rains about one day out of three. On some of the islands it rains twice as often. The rainfall consists of heavy downpours of short duration. The amount for Habana is annually about fifty-two inches; for the West Indies variable from thirty-two inches at Kingston, Jamaica, to one hundred and thirty-three inches at Fort de France. In spite of the excessive rainfall the rainy season is in general almost cloudless. Northeast trade winds prevail in this region and have an average velocity at Habana of about seven and five-tenths miles with slight variation. They are highest in winter and lowest in summer. The diurnal variation at Habana ranges from four and three-tenth miles at 4 A. M. to eleven and four-tenths at 2 P. M.

APPENDICITIS.

THE literature upon appendicitis has already become so voluminous that the subject would seem to be exhausted. Opinions have come to be so dogmatically expressed that room for opposition would not seem to exist. In spite of these semblances there are still wide differences of honest opinion and forceful utterances of them at length. In controversies on this subject the disputants may be grouped in two general classes, namely, the surgeons and the physicians, and the dispute hinges not on the diagnosis of the disease, which is fairly well made in the majority of instances, but on the application of early and routine surgical procedures. No one can fail to be impressed by the pathological facts and the operative results presented by the surgeons and the conviction manifested on this subject. The insidious manner in which the disease progresses and the suddenness with which serious conditions often arise, to the surprise of the attending physician, justly incite the fear of delay. Hence the injunction of the surgeon to be called early and to amputate every appendix. The acceptance of this dictum by the physician involves two things. First, the physician must regard the disease from the same point of view as the surgeon, namely, from its etiological and pathological as well as clinical sides. It may be reasonably charged against many physicians that they do not so regard it. They have often appeared to consider it solely from a clinical standpoint. Few physicians have not seen some of these cases recover without operation. Concluding from the clinical aspects and without due regard from other points of view they do not see why others may not also recover under medical treatment. This is the danger point and the origin of the surgeon's distrust.

Under these circumstances the attitude of physicians and surgeons should be mutually honorable and sincere. When the surgeon proclaims that he should be called early he should convey the impression, not of his ambition, but rather and only his solicitation for the patient's welfare. No charge on this point is made. On account of the variance of his precept and example, however, some explanation is due. Surgeons do not operate on all cases of appendicitis that come to them primarily nor literally at once upon operable cases that so come. Why, then, their dictatorial injunction? The most obvious reason, aside from the fact that physicians are the class to whom most of these patients first apply, is the distrust which surgeons have learned to feel for the average practitioner's discernment of the surgical requirments of this disease. As suggested above physicians as a class seem to have failed to grasp the possibilities in an attack of appendicitis as they should if the facts of pathology were thoroughly understood. Until all shall regard this affection from the same point of view the dispute cannot end. As the surgeon has and can show the facts it remains for the physician to more critically study these cases from every standpoint. He should be alert to the surgical treatment of appendicitis as he would be in impending intestinal perforation or tubal rupture. Until he has cultivated the power of discernment the dictum of the surgeon must go. The moment he falls into doubt as to the safety of the patient that moment is the last one in which he can conscientiously hold the case.

As the situation looks to us the solution of the problem depends upon a common standpoint which in turn will allow of a fairer statement of the surgical treatment to be accorded these patients.

ANNOTATIONS.

SCIENTISTS FOR REVENUE ONLY.

WE cannot let the occasion pass by without both remonstrating against the peculiar workings of our patent laws and reprehending the avarice which has suddenly seized upon some of the benefactors of mankind. We appreciate the value of these laws in stimulating scientific progress, but the justice which permitted the grant of a patent upon diphtheria antitoxin to **PROFESSOR BEHRING** we cannot understand. Credit is not denied him for a part in the development of this remedy, but it is true that neither the remedy was original with him nor the principal of it which has been known and variously applied since **JENNER'S** time, and without the help of **KLEBS**, **LOEFFLER** and **ROUX**, who shared with him the prize of the French Academy of Science and others, it is not conceivable that **BEHRING** could have had any part in it. Aside from the bold assumptions he has made his conduct is deserving of the severest criticism. It is now reported also that **SANARELLI** has sold the right of making the antitoxic serum of yellow fever for a large sum and a royalty. If this disposition continues to be asserted the profession may as well throw its ethics to the winds and confess at once its mercenary character.

THE ARMY MEDICAL DEPARTMENT.

UNFORTUNATELY many lay newspapers and some hasty medical journals have felt constrained either through yellow journalism or ignorance to prejudice public opinion against the Army Medical Department. Under the smart of the injuries and hardships of war and without investigating the real merits of the situation, or realizing the consequences of the censure, they have accused the medical service of incompetency. As **DOCTOR SENN** has remarked (*The Journal*), "War always had its hardships and discomforts; it cannot be prosecuted in parlor cars and club houses. Our soldiers expected deprivations and unavoidable discomforts, but on the whole they were subjected to less actual suffering than they had reason to look for. To the credit of the medical officers it must be said they shared the inevitable hardships with the soldiers. They lived on the same food, drank the same water and made the moist ground their beds." **GENERAL STERNBERG** is a man of much professional knowledge, experience and marked executive ability and before criticism is passed upon him and his administration a just estimate of all the circumstances should be made. We feel confident that, notwithstanding apparent or possibly real omissions, which in the sudden emergency could not be avoided, an impartial review of the facts will extenuate beyond justifiable criticism any culpability of the Army Medical Department during the recent campaign.

CONTEMPORARY.

DISTINCTION BETWEEN A PROPRIETARY AND A MONOPOLISTIC MEDICINE.

[THE PHILADELPHIA MEDICAL JOURNAL.]

THE law of our country, and of all civilized countries, encourages discovery and invention by giving a person the monopoly of his discovery so far as relates to manufacture and sale for a limited period. In patenting an article all secrecy whatever, either as to ingredients, nature and method of manufacture, are done away with. With proper care as to granting patents there can be no question of the wisdom and justice of the law. We all believe in and acknowledge this. The law also permits a manufacturer or discoverer to trademark his product, and an abuse in medicine has been allowed in permitting the trademarking or brand-marking of things of secret constitution. This we believe wrong and so does every ethical physician. There should be no secrecy as to the essential constituents of articles needed or used by physicians as therapeutic agents. The trademarking of nonsecret articles we cannot object to and is a proper manner of rewarding ingenuity, investment of capital, et cetera. It is sometimes somewhat difficult to decide as to the exact construction of certain articles, but in most it is not impossible to place them in the one or the other category. Processes of manufacture may also be patented or secret, a fact that may introduce other elements of doubt, but that may also serve as legitimate rewards of enterprise and stimulants of progress.

We repeat that the essential point upon which almost every question hinges is as to secrecy. If the active ingredients of a drug, et cetera, are known, the system of trademarking will in time correct its own evils. (If not why not limit the duration of a trademark-monopoly the same as of a patent?) It is well even in so simple an article as codliver-oil to have some guarantee of purity and uniformity; this guarantee is the trademark. The proprietorship of a nonsecret article is no evil, and creates no monopoly. Any other manufacturer may make the same preparation under another name, brand, or trademark, and in these days of sharp competition there is no doubt any good nonsecret article will find plenty of rivals to supply the market with the same or essentially the same thing, sold, naturally and rightly, under a different naming. There must be no monopoly in medicines (except the occasional short one of patented articles), and trademarking nonsecret ones does not create monopolies. If so, as we said, we should by law limit the monopoly, as in patented articles, to a few years. The trademarking of secret articles is utterly wrong, a disgrace to the profession, and an injury to the people. In the reaction against nostrums, a sort of blind fury seemed at one time to have confounded things both good and bad under the ban of contempt, and to many people, thoughtless of facts and the meaning of words, the term proprietary remedy became a bugaboo worthy of the uttermost detestation. But sea-water, rain-water, or air may be proprietary articles. Pure drinking-water or pure milk are proprietary articles, and we would all pay the proprietors extra prices for their special brands of these things if we knew they were thoroughly and uniformly pure. The name, brand, or trademark, gives no monopoly to the water, air, or milk of the world, nor does the brand of codliver-oil, or malt, or any other nonsecret therapeutic agent.

MEDICAL NEWS.

THE BRITISH MEDICAL ASSOCIATION.

THE sixty-sixth annual meeting of the British Medical Association convened in Edinburgh July 26, 27, 28 and 29, 1898. The meeting was formally opened by the retiring president, Professor Thomas G. Roddick, of Montreal, the first Colonial president, who introduced Sir Thomas Grainger Stewart, of Edinburgh, as president of the Association. The address of the latter was upon "The Reciprocal Duties of our Profession to the Community, and of the Community to the Profession." The address was eminently able and practical, dealing especially with the problems of sanitary science and the maintenance of a high professional standard. The address in medicine, by Thomas Richard Fraser, of Edinburgh, upon "The Toxic Origin of Disease," was a discussion of the question of immunity. Thomas Annandale, of Edinburgh, addressed the association on "The Present Position of Surgery" from its scientific, practical and moral aspects. As reported in the *British Medical Journal*, the other addresses and sectional papers were well received, and covered most of the important questions now under discussion by the profession. The attendance was large, the organization effective and the hospitality generous.

THE SANITARY CONFERENCE.

LOCAL and sanitary officers from other states and Canada assembled in convention at Detroit during the second week of August. Their program, as published in the last issue of this journal, was fully carried out with one or two exceptions. In the Quarter-Centennial Celebration the Michigan State Board of Health was the recipient of the highest commendation. Michigan is a pioneer in the practice of sanitary science and, as is more apparent abroad than at home, she and the medical profession have been honored by the work of our State Board. The delegate attendance at the Conference of State and Provincial Boards of Health of North America fairly well represented their several bodies, but for some reason the interest of the local profession was not secured to any considerable extent. The methods of the boards and the discussion of tuberculosis occupied much of the time and evinced the earnestness of those engaged in the work. The following officers were elected for the ensuing year: President, Doctor Felix Formento, of New Orleans; vicepresident, Doctor Peter H. Bryce, of Toronto; secretary, Doctor J. N. Hurty, of Indianapolis, and treasurer, Doctor Elzear Pelletier, of Quebec.

A PROMINENT MICHIGAN PHYSICIAN'S DEMISE.

DOCTOR FOSTER PRATT, of Kalamazoo, died of angina pectoris August 12, while seated in his library with a newspaper in hand. The doctor had been ailing but attended to his professional duties two days prior to death, which occurred peacefully in the presence of his wife. Doctor Pratt was born in Mount Morris, New York, January 29, 1823. His literary education was completed by taking a course in Franklin Academy, after which he became principal of Angelica Academy, a position he was forced to relinquish some time later on account of sickness. In 1844 he taught in Hampshire county, West Virginia, where he wooed and wed Miss Mary L. Gamble. He now abandoned teaching to study medicine, and graduated from the University of Pennsylvania in 1849, immediately settling in Virginia. In 1856 he located in Kalamazoo, where his practice soon became extensive. At the outbreak of the civil war he accepted the surgeoncy of the Thirteenth Michigan Volunteer Regiment. Doctor Pratt has served his profession, his city, his state, and his country. He has been twice president of the Kalamazoo Academy of Medicine; once president of the Michigan State Medical Society, and once vicepresident and acting president; and has been a member of the judicial council of the American Medical Association. He was the author of a comprehensive review of that portion of the tenth census relating to criminals, paupers, insane, idiots, the blind, the deaf and dumb. In 1891 he was president of the village of Kalamazoo, and the citizens are indebted to him for valuable services rendered in other official capacities, especially for his work in behalf of the present system of sewerage and water supply. He was elected to the legislature in 1858, and while a member of that body secured the first appropriation for the Michigan Asylum for the Insane. He was delegate at large to the National Democratic Convention, held at Cincinnati in 1880; district delegate to New York in 1868, and to Baltimore in 1872. He was a member of the board of trustees of the asylum for twelve years, officiating as president of that body for four years. As a physician Doctor Pratt left an honorable impress upon the medical profession, while as a citizen his life was characterized by many evidences of noble manhood.

THE PASSING OF DOCTOR PEPPER.

The death of Doctor William Pepper occurred suddenly from angina pectoris, July 28, in California, whither he had gone to recuperate on a ranch in the vicinity of Plesanton. The doctor was born in Philadelphia August 21, 1843, and received his literary and medical training at the University of Pennsylvania, graduating in arts in 1862, and in medicine two years later. The son of a physician and born in an influential family, young Pepper inherited a prestige well calculated to insure professional advancement commensurate with his ability. He began his medical career by serving as interne in the Pennsylvania Hospital, and in 1866 was appointed curator and pathologist to this institution. In 1867 he became visiting physician and pathologist to the Philadelphia Hospital. In 1868 his official connection as teacher in the University of Pennsylvania had its inception, he being appointed lecturer on morbid anatomy. In 1870 his title was changed to that of lecturer on clinical medicine. In 1876 is noted his elevation to the professorship of clinical medicine, and likewise the medical directorship of the Centennial International Exposition. For services in connection with the latter position the king of Sweden decoratod him knight commander of the order of Saint Olaf. In 1881 he became provost of the University, which position he occupied thirteen years. When he entered upon the duties of this office the institution had 88 instructors and 981 students; when he retired the calendar recorded the names of 268 instructors and 2,180 students. In 1887 he filled the chair of theory and practice of medicine, in addition to performing the duties of provost. In 1893 he was president of the first PanAmerican Medical Congress, which convened in Washington, and was one of the orators at the second meeting of this medical body, which occurred in the City of Mexico in 1896. In 1894 he made a gift of $50,000 to the University of Pennsylvania, and relinquished the provostship. Doctor Pepper was a voluminous writer, his most important work in that direction being contributed to "A System of Medicine by American Authors," "Diseases of Children," and the "American Text-Book of the Theory and Practice of Medicine." He founded the *Philadelphia Medical Times* in 1870, and for two years was its editor. His contributions to the medical press were numerous and of superior quality. He has fought the good fight, not only as a distinguished physician but as a public-spirited citizen as well. His funeral took place in Philadelphia on the 6th instant, and was entirely private, only the members of the family accompanying the remains to the cemetery. His name and fame will be perpetuated by a bronze statute to be erected by the department of archeology and paleontology of the University of Pennsylvania, on the grounds of the Philadelphia Commercial Museum, an institution founded by the deceased.

MINOR INTELLIGENCE.

General Wilson, the military governor of Porto Rico, has appointed Doctor John McG. Woodbury, of New York, chief surgeon of the sanitary corps selected for our new territory. The appointee previously served as chief sanitary officer on General Wilson's staff, and possesses the requisites for an efficient sanitarian.

On Monday, July 18, while descending the spiral staircase at Waddesdon Manor, the Prince of Wales, in the effort to avoid a fall, sustained a fracture of the left patella, the fragments separating two inches. He was attended by four surgeons including Lord Lister, all of whom were agreed that operative treatment was unnecessary.

Doctor Lilienfeld, of Vienna, is credited with the discovery of a process for manufacturing albumin artificially from certain coal-tar waste products. The claim is advanced that the new derivative possesses all the properties of peptone. It is a brown powder, has a taste similar to egg albumen, and sufficient to sustain life can be procured for about eight cents a day.

The Belgian government has offered a prize of $10,000 to the person whose chemical ingenuity can produce a merchantable match paste devoid of yellow phosphorus. The product must be nonexplosive in manufacture and free from substances dangerous to public health. Competition is extended to all nations, and M. Woeste, Rue Latérale 2, Brussels, will give particulars regarding conditions.

Missouri, the hospital ship which will be sent to Manila as soon as certain fittings are completed, is sufficiently capacious for four hundred patients, forty-five nurses, and ten surgeons. Although not handsomely decorated this ship is reputed to possess important advantages over other craft in the hospital service. Major William H. Arthur, surgeon United States volunteers, will be in charge of this vessel.

The University of Edinburgh recently conferred the honorary degree of LL.D. upon Doctor William W. Keen, of Philadelphia; Doctor Henry P. Bowditch, of Boston; Doctor William Osler, of Baltimore; Doctor T. G. Roddick, of Montreal; Sir William Broadbent, and Doctors Lauder Brunton and Ferrier, of London; Doyen, of Paris; Forster, of Strassburg; Kocher, of Berne; Martin, of Berlin; Mikulicz, of Breslau; and Morselli, of Genoa.

There recently occurred at Washington an examination of candidates for appointment as assistant surgeons in the Marine Hospital Service, and the board of medical officers who conducted the examination has now submitted its report. Out of twenty-four physicians who elected to undergo the ordeal only five attained the required average. The two applicants receiving the highest average will be installed in the two vacancies now existing in the service.

Several new elements have lately been discovered in the composition of air. About three years ago Lord Rayleigh and Professor Ramsey isolated argon from what had hitherto been supposed to consist of oxygen, nitrogen and carbon dioxide, the achievement being recorded in this journal at the time. Recent investigations have demonstrated that the atmosphere embraces still other constituents which have been designated krypton, neon and metargon gases similar to argon as regards inertness.

The Atlanta College of Physicians and Surgeons is a new candidate for embryo-professional favor. It exists as the result of a recent consolidation of the Atlanta Medical College and the Southern Medical College. The deanship is vested in Doctor W. S. Kendrick, and the faculty certainly entertain lofty aspirations for the announcement of the college recounts the determination "that it shall result in a university of medicine which shall offer advantages second to none to be obtained in the United States."

THE soldiers encamped in Cuba, Porto Rico, and Manila are to be supplied with mosquito-proof tents. These tents are made from a fine quality of white cheese cloth and are very light, weighing only one and one-half pounds each. When in position for occupancy the tent is five feet high, six feet long, and three feet wide, but when folded it can be conveniently carried in a knapsack.

THE legislature of the State of New York recently appropriated a sum of money to the University of Buffalo for the purpose of "equipping and maintaining a laboratory to be devoted to the study of the causes, mortality-rate and treatment of cancer." The laboratory is conducted under the supervision of the medical department of the University, and under the immediate direction of Doctors Roswell Park and H. R. Gaylord. They solicit correspondence, monographs on the subject and specimens for examination.

ON invitation by the Board of Poor Commissioners for Wayne county, the Detroit Academy of Medicine recently visited and lunched at the County House and Asylum. The society remarked the improved appearance of the premises, and were favorably impressed by the cleanly and comfortable surroundings of the inmates. After a substantial repast toasts were responded to by several members who warmly praised the entire management, including the board, medical staff and matrons. It was hinted that other societies would also be invited later.

PARIS has recently contributed a millionaire to the medical profession. Baron Henri de Rothschild, a member of the Paris contingent of this wealthy Jewish family, has become a Doctor of Medicine after having achieved distinction in his final examination. Young Rothschild conducted a private dispensary which he generously established for the treatment of infants. His graduation thesis is founded upon observations made in this clinic, and was considered of sufficient merit by the Academy of Medicine to be awarded a silver medal.

THE historical and attractive souvenir of the recent Quarter-Centennial Celebration of the establishment of the Michigan State Board of Health reflects great credit upon its author, Theodore R. MacClure, chief clerk in the office of the board at Lansing. The document comprises forty-eight pages and reviews the work of the board since its establishment in 1873, noting the progress made and the various lines of investigation conducted. It is embellished with excellent half tones of the distinguished sanitarians who gratuitously served the state as members of the board during the twenty-five years of its existence.

SURGEON-GENERAL STERNBERG has appointed a commission consisting of Major Walter Reed, United States army; Major Victor C. Vaughan, division surgeon of volunteers, and Major Edward O. Shakespeare, brigade surgeon of United States volunteers, to investigate the cause of typhoid fever in army camps and formulate hygienic rules for preventing outbreaks of the disease in future camps. The commission recently began work at Camp Alger, Virginia, from whence it will proceed to other places specified in the official instructions, towit: Camp Thomas, Chickamauga, Georgia; Camp Meade, Middleton, Pennsylvania; Camp Wikoff, Montauk Point, New York; and those at Huntsville, Alabama, and Jacksonville and Fernandina, Florida.

ACCORDING to newspaper report the Indiana Board of Health is about to recommend that the custom of interring dead bodies be discontinued and that the more sanitary method of disposal by cremation be generally adopted. In the forthcoming report of the board cremation is regarded the only barrier against the propagation of disease that is often traced to cemeteries. The position is taken that the earth is not a disinfector, and that the hitherto mysterious origin of disease is attributable to poisons in the earth. The poor earthworm is held responsible for unwittingly bringing to the surface bacteria from dead bodies and thereby scattering the seeds of typhoid fever, consumption, lock-jaw, et cetera, broadcast throughout the land.

RECENT PUBLICATIONS.

REVIEWS.

MODERN SURGERY.*

THIS is a model book for the medical student. Not so voluminous as the large text-books and systems of surgery, which are at first difficultly digested, it is nevertheless comprehensive, practical and sufficiently explanatory to make it an exceedingly useful work. The second edition which is now offered is modern in every respect. The author has wisely omitted much that has become obsolete and substituted therefor new and really useful knowledge.

*By John Chalmers DaCosta, M. D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, et cetera. With 386 illustrations. Philadelphia: W. B. Saunders, 1898. Price: cloth, $4.00; one-half morocco, $5.00 net.

PHYSICAL DIAGNOSIS.*

IN this instance introduction is scarcely necessary as both author and manual have been standard for many years. The present edition, the third, having been revised and enlarged by a fuller treatment of examinations of blood and stomach contents, will continue the acceptability and utility of the work. Numerous illustrations, some of them colored, enhance its value.

*By James Tyson, M. D., Professor of Clinical Medicine in the University of Pennsylvania and Physician to the University Hospital; Physician to the Philadelphia Hospital; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicians, et cetera. Philadelphia: P. Blakiston's Son & Company, 1898. Price $1.50 net.

OPERATIVE SURGERY.*

WE have long had works on general surgery galore as we have also had on the practice of medicine, but until recent years the diffusion of the knowledge of operative surgery has not kept pace with that of therapeutics. The more general practice of the art has greatly stimulated this particular branch of the subject so that now few graduates are ignorant of surgical appliances and methods. This work gives an admirable presentation of the subject which students and practitioners as well will not fail to appreciate. The beautiful illustrations are in keeping with those of the other volumes of this series.

*By Doctor Otto Zuckerkandl, Privat-docent in the University of Vienna. Authorized translation from the German. Edited by J. Chalmers DaCosta, M. D., Clinical Professor of Surgery in Jefferson Medical College, Philadelphia; Surgeon to the Philadelphia Hospital, et cetera. With 24 colored plates and 217 illustrations in the text. Philadelphia: W. B. Saunders, 1898. Price $3.00.

DISEASES OF CHILDREN.*

THE series to which this manual belongs form a serviceable introduction to the exhaustive study of the specialties of medical practice. This work presents the diseases of children in a brief and convenient form, and is eminently practical. It is particularly adapted to students and practitioners.

*By John Madison Taylor, A. M., M. D., Professor of Diseases of Children in the Philadelphia Polyclinic; Assistant Physician to the Children's Hospita and to the Orthopedic Hospital; Neurologist to the Howard Hospital; Consulting Physician to the Elwyn and to the Vineland Training Schools for Feeble-Minded Children; Fellow of the College of Physicians of Philadelphia, et cetera and William H. Wells, M. D., Adjunct Professor of Obstetrics and Diseases of

Infancy in the Philadelphia Polyclinic; Instructor in Obstetrics in the Jefferson Medical College of Philadelphia; Fellow of the College of Physicians of Philadelphia; Member of the Philadelphia Pediatric Society, et cetera. Illustrated. Philadelphia: P. Blakiston's Son & Company, 1898. Price, $4.00.

OFFICE TREATMENT OF HEMORRHOIDS, FISTULÆ, ET CETERA.*

The matter comprised under this title consists of three essays. In the first the author maintains that operative treatment is not essential to the cure of all cases of hemorrhoids, fistulæ, fissures and other affections of the rectum, and especially those cases in which time is not an important element. In the second special reference is made to the reflex disturbances of the rectum and other organs, and the absurdity of limited specialism is pointed out. In the last comparison is drawn between colostomy and extirpation of the rectum in nonmalignant cases. The essays are very interesting, and in view of the trend of opinion on these subjects, their publication is most opportune.

*By Charles B. Kelsey, A. M., M. D., Late Professor of Surgery at the New York Post-Graduate Medical School and Hospital; Fellow of the New York Academy of Medicine, the New York County Medical Society, et cetera. New York: E. R. Pelton, 1898. Price, 75 cents.

ORIGINAL ABSTRACTS.

MEDICINE.*

Early Rising After Confinement.—In the Breslauer Königlicher Klinik extensive trials have been made as regards early bed leaving after confinement. Brutzer states that when the physician selects the cases, women may without detriment leave the bed on the second or third day, and that remaining in the lying posture longer can only prove detrimental to a healthy mother, providing it exceeds five days. Brutzer further claims that the usual objection to early rising are not valid, such as incomplete involution, flexions, embolism, tearing of partially healed lacerations, greater danger of infection. These objections are better overcome by the mother being up than in bed; emboli do not form after the second day; the opening of healed lacerations would be more apt to occur during defecation or urination, and temperature rise is more often avoided. On dismissal on the tenth day the early risers were in much better condition physically than the others.—*Zeitschrift für Geburtshülfe und Gynäkologie.*

* * *

The Absorption of Homoglobin.—Emil Häussermann, by means of a series of experiments on rats, rabbits and dogs found that the system will take as much if not more hemoglobin from food rich in iron than from food made rich with artificial addition of iron.

SURGERY.*

Germ Contents of Accidental Wounds.—The problems that the author sets up to answer are—

(1) Do accidental wounds contain germs, and if so, in what quantity?

(2) Are these germs pathogenic?

(3) What influence on the germ contents of the wound has the mechanical cause, and what advantage to germ production does the time elapsing between accident and the surgeon's care give?

(4) Does the application of chemical disinfection influence the germ contents of the wound?

Twenty-six cases are then quoted which form the foundation of the investigation: eight cases were produced by cutting of sharp edges; seven by tearing; seven by contusion; two by shooting; two were of ulcers of the leg. In these cases were found—

Staphylococcus pyogenes albus in fifteen cases.
Micrococcus tetragenus in four cases.
Streptococci in thirteen cases.
Tetanus bacilli in two cases.
Large cocci (three times the size of staphylococci) in five cases.
Diplococci in five cases.
Micrococcus roseus Bumm in two cases.
Bacterium coli commune in one case.
Proteus vulgaris in three cases.
Spirillum undula in one case.
Spirilli (undetermined) in one case.
Bacillus Friedländer in one case.
Bacillus subtilis in seven cases.
Bacillus pyocyaneus in two cases.
Bacillus fluoresceus putridus in one case.
Bacillus liquefaciens in one case.
Bacilli (undetermined) in nine cases.
Sarcina lutea in three cases.
Sarcina aurantiaca in one case.
Many forms of yeast and mold fungi.

These germs contaminated the wound through—

(1) Causation mechanism;
    (a) Through instrument itself on which they were.
    (b) Through particles brought into the wound by means of or with the instrument.
(2) Through efforts of patient;
    (a) Through rubbing the wound or skin around the wound.
    (b) Through media used for cleansing or bandaging the wound.

The investigation methods were very thorough and as results are given this summary:

(1) Accidental wounds of the body surface contain numerous germs.

(2) Among these we find mostly pathogenic, that is, such as are capable of producing wound infection.

(3) The origin of these germs is to be traced to the body surface in proximity to wound, from where they are introduced either by the instrument causing the wound, or they grow from the edge into the wound itself.

(4) Germ numbers increase with time intervening between accident and surgeon's care.

(5) Antiseptic measures accomplish better results than aseptic in reducing the number of germs.—Doctor Heinrich Riggenbach, in *Deutsche Zeitschrift für Chirurgie.*

* * *

Complete Gastrectomy.—Of special interest is the report of Doctor Carl Schlatter (*Correspondenzblatt für Schweizer Aerzte*, XXVII) who performed a total gastrectomy on a fifty-six-year old woman suffering from cancer of the stomach, this being the first recorded case.

The woman survived the operation, gained visibly in the preceding few months and felt herself well. She received her nourishment in small portions at a medium temperature, amounting daily to one liter milk, two eggs, one hundred to one hundred and fifty gries, two hundred meat, two hundred oatmeal or barley gruel, one cup of tea, one to two biscuits with fifteen butter and a little wine, which she took without difficulty, and futhermore, as all the tests show, absorbed the same without fault.—*Schmidt's Jahrbücher.*

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*Abstracted by A. F. Fischer, M. D.

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

A SYMPOSIUM ON OPHTHALMOLOGY.

PENETRATING WOUNDS OF THE EYE.*

By ROBERT WINTHROP GILLMAN, M. D., Detroit, Michigan.

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LATE ASSISTANT SURGEON IN THE BRITISH OPHTHALMIC HOSPITAL, JERUSALEM, PALESTINE;
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[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

In no other branch of surgery does good judgment, founded on experience, count for more than it does in the case of the treatment of penetrating wounds of the eye. These demand the most careful attention on the part of the oculist. A wrong diagnosis, as regards the character of the injury, may cost the patient the loss of an optic body, and what is even worse, the noninjured eye may be destroyed through an attack of sympathetic ophthalmia.

While a student at the Royal Ophthalmic Hospital, London, some ten years ago, I was often startled at witnessing the surgeons enucleate injured eyes that, apparently, were not in a violent state of inflammation, the vision, in some cases, not being much diminished. Nor did the fellow-eyes exhibit symptoms of sympathetic irritation. The surgeons stated they determined on this heroic course in order to obviate any risk of possible sympathetic ophthalmia destroying the sound optic. The fear of this latter affection has influenced surgeons to sacrifice seemingly slightly wounded eyes.

The last few years have brought about a marked change on the part of the oculists in the management of wounded optics. Today, ophthalmic surgeons, generally, believe in closely watching all threatening cases; and are ready to act, in behalf of either eye, at the slightest warning of danger. Injured eyes that gave no promise of recovery with even any degree of vision have, under careful management, recovered normal sight.

I make it a rule before examining a wounded eye to obtain from the patient or his friends a complete description of the manner in which he met with the particular accident. For often a history of the accident will guide in making a correct diagnosis of the case. Another rule I follow is to make an ophthalmoscopic examination of even slightly wounded optics so as to be on the outlook for intruding foreign bodies or injuries to the deeper structures.

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* Read before the Wayne County (Detroit) Medical Society.

Simple cuts or rents through the cornea require thorough cleansing, and the use of a mydriatic, if the wound is central, or of a myotic, if peripheral; and that the eye should be bandaged for a few days. If prolapse of the iris is present it can sometimes be reduced if the case is seen at an early stage, but usually it will be found necessary to abscise the protruding mass.

When the lens is wounded, traumatic cataract is almost sure to follow; and then the lenticular substance may swell so rapidly that the symptoms arising may demand an immediate paracentesis of the cornea or a linear extraction of the soft cataract in order to save the eye.

Although extensive wounds of the ciliary region—"the zone of danger"—often heal without producing any disturbance, yet the first and constant thought of the attending surgeon should be directed to a possible attack of sympathetic ophthalmia invading the uninjured eye.

Sometimes one of the most perplexing problems presents itself, namely: whether or not a foreign body is present within the eye. If present, its exact location should if possible be determined. Then, in recent cases, no time should be lost in deciding on its removal. If the media are clear there will be no difficulty in tracing the track of the intrusive substance with the ophthalmoscope. Small rents in the iris can be readily seen by the aid of the mirror. Air bubbles in the vitreous are sometimes to be perceived, giving strong evidence of a foreign body having invaded the eye.

The sideroscope or iron searcher, an instrument constructed by DOCTOR ASMUS, has recently been introduced into ophthalmic practice. It consists, essentially, of a very powerful magnetic needle, so suspended and equipped that it is as nearly as possible under perfect control, and that its slightest movements may be accurately observed. It is claimed for it that, except in very rare cases, particles of iron and steel in the eyeball, even if very minute, can be detected, and that the location of such bodies is possible if all the meridians are examined.

The electro-magnet brought in contrat with the globe will sometimes clear up the diagnosis of the presence of a particle of iron or steel by making it alter its position and thereby cause pain, if the splinter is not firmly imbedded, as in the fundus oculi.

The RÖNTGEN rays have proved most valuable, in certain cases, in locating these intrusive substances. In the *Weiner Klinische Wochenschrift*, of February 17, 1898, STÖCKEL, of Vienna, reports two interesting cases, wherein the X-rays exactly pictured foreign bodies within the eyes after all other methods failed to locate them. One of the cases reported was the location of fine bird shot. In the other case the object was a sliver of copper.

In the electro-magnet we have an instrument that will rescue many optics—victims of flying particles of iron and steel. HAAB's powerful magnet is probably the best, as in its employment, in some cases, it is often unnecessary to introduce it into the eye at all, its magnetic attraction being so powerful that in the case of recent injury the alien particle is drawn to the magnet through its own path into the eye.

When the attempt at removal of a foreign substance from the interior of an eye is unsuccessful some ophthalmic surgeons resort to immediate enucleation of the injured organ. Of course, much depends on the character and the location of the injury; but, in general, I am not in favor of immediate enucleation in this class of cases; but insist on keeping the patient under the closest observation for some time, when by the extent of the inflammatory reaction the best way of dealing with the case can be determined.

It is not uncommon for a foreign body to imbed itself in the walls of an eye and remain there for many years without interfering with useful vision or exciting any inflammation. Then, again, it is possible for the intrusive body, as for instance bird shot, to pass completely through the eye and lodge in the orbit without producing serious results to sight or to the optic body.

The RÖNTGEN rays should prove of great help to us in some of these doubtful cases, as the radiograph could tell whether the foreign bodies were in a position to excite trouble or not.

In a paper, read before the Michigan State Medical Society in 1894, "On the Use of the Electro-Magnet in Ophthalmic Practice," I reported the remarkable recovery to normal vision of an eye that was apparently destroyed in October, 1892, by a chip of steel, from a hammer, which pierced the right cornea to the temporal side of the sclero-corneal junction making a rent in the iris through which it passed into the vitreous. Three excursions were made into the vitreous with different sized tips of a Hershberg magnet, forty-eight hours after the accident, through the wound in the cornea and iris, in the track made by the chip of steel, but without attracting it to the magnet.

I present this case for your examination this evening, six and one-half years after the injury. The eye presents a natural appearance; and its vision equals $\frac{20}{30}$ without glasses. The patient informs me he has no trouble whatever with this eye; and that being his right eye, he uses it alone while "sighting" his gun, shooting, and is able to "bag" any kind of game. The rent in the iris has a background of clear media; the lens had miraculously escaped injury. In the fundus, a few millimeters to the outer side of the macular region, is a deep fissure involving the retina, choroid, and sclera. In the central part of this, which shows as a white patch, a pointed bluish-gray object projects anteriorly and downward into the vitreous. I am of the opinion that this object is a sliver of metal imbedded in the background of the eye.

Examination shows that his vision is not as acute as it was some four years ago, although he claims he remarks no difference in the sight of the eye. I have warned the patient, should pain, redness, or dimness of vision attack this eye to at once consult an oculist, when the magnet can be again called into use or the optic enucleated as the case may demand.

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MULES' OPERATION.*

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IN the work of every ophthalmologist situations occur demanding operative interference in order to prevent sympathetic ophthalmia, relieve pain, or secure to the patient an improved cosmetic effect. Indeed in some instances all these three considerations may enter into our deliberations in planning the best course to pursue in any given case.

The ocular conditions demanding such attention may be the result of an injury, or perhaps some other destructive pathologic condition, such as corneal abscess going on to perforation and resulting in a blind, unsightly glaucomatous and very painful eye; or again, a gonorrheal ophthalmia may, unfortunatley, in its course be complicated by an infected corneal ulcer, which so weakens the corneal substance as to permit it to yield before the intraocular pressure producing an unsightly staphyloma which persists after the original lesion has spent its force. Then, too, a panophthalmitis may engage our solicitous attention in a surgical way.

In order to meet these demands on our surgical skill ophthalmology has for many years presented to us various methods of procedure. After all conservative therapeutic and surgical methods have failed to bring safety from ophthalmitis sympathetica, relief from pain to our tortured patient or secured to him the much-desired cosmetic improvement, other more radical measures must be adopted. Unquestionably, enucleation or removal of the eyeball in its entirety will meet all the requirements of these cases. The danger from sympathetic inflammation has departed, the pain has vanished and with it the unsightly eye, and in their place we have the empty socket in the depth of which reposes the artificial eye.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Experience has taught us that enucleation is followed by some very unpleasant effects. The eye is often immobile, staring, and bathed in muco-purulent discharge, the latter being the natural result of fitting a concave shell into a concave cavity. The air contained in the space bounded by the two concavities becomes absorbed, producing a suction which is compensated for by swelling and engorgement of the mucous membrane, which, in their turn, lead to the increased secretion.

From the absorption of the orbital fat and from cicatricial contraction in the orbit deep grooves are frequently formed around the orbital margins, and lastly, in children there always is some arrest in the development of the corresponding side of the face. In order to obviate these unpleasant concomitants of enucleation various surgical manipulations have been introduced. Evisceration, optico-ciliary neurotomy, and the transplantation of the eye of a rabbit have all been tried and each successively relegated to the surgical lumber yard. Not indeed till the English ophthalmic surgeon Mules introduced his operation some twelve years ago was any progress made, but since then the operation has been growing in favor until now it is performed successfully by many operators. The operation is a simple procedure and is done in the following manner:

After general anesthesia has been induced, the field of operation thoroughly asepticized, and the ophthalmostat introduced, the conjunctiva is dissected back to the equator, all the muscles detached close to the sclera, then the eye is firmly held by fixation forceps and with a Beers knife a large corneo-scleral section is made as in the flap operation for cataract, then with forceps and scissors the cornea is completely removed, care being taken to keep well to the scleral side of the corneo-scleral junction in order to remove every vestige of corneal tissue. With a specially devised scoop the intraocular contents are now thoroughly removed, especial care being taken to completely remove the ciliary body and head of the optic nerve. The scleral cavity is thoroughly cleansed and all bleeding points stopped by pressure of bichloride gauze tampons soaked in hot water. The artificial vitreous, either a glass or a silver ball, is introduced into the scleral cavity. The sclera and conjunctiva are stretched up separately, the sutures in the former being buried and allowed to gradually absorb, those in the latter being removed after six days.

The after treatment consists of rest in bed and a pressure bandage to both eyes. The reaction for some days is right smart but the recovery is usually prompt and uneventful and the ultimate cosmetic effect is vastly superior to that of enucleation.

Some have objected to the operation on the score of there being a liability to sympathetic inflammation. So far as my knowledge goes no such result has been observed and I have done the operation in the face of decided sympathetic irritation and have seen it completely disappear in a few days. Of course there are some contraindictions to this operation, such as very much shrunken eyes or those containing an ossified choroid or an intraocular tumor. The operation has, however, been successfully performed in Philadelphia upon a patient in which there were quite extensive bony deposits in the fundus. There is some difficulty in obtaining a suitable artificial shell to fit over the artificial vitreous, but a little extra care will obviate any difficulty there.

In cases wherein the eye has already been enucleated and the cavity is troublesome from discharge, holes may be bored in the artificial eye which will allow free access of air behind the shell and thus avoid the absorption suction and its consequent irritation.

Another method is that introduced by Fox, of the Medico-Chirurgical College, Philadelphia, and called by him implantation. The conjunctiva of the orbital cavity is incised horizontally and carefully dissected up, after which a glass or silver sphere of proper size is introduced into the cavity thus formed, the conjunctiva being closed over it by suitably placed sutures.

57 FORT STREET WEST.

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NON-PENETRATING INJURIES OF THE EYE.*

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THE eye, protected as it is, by the bony cavity in which it lies, and the ball elastic and surrounded by muscular and adipose tissue, the posterior pole particularly well padded with fatty tissue, comparatively speaking, is seldom seriously injured by a blow from a blunt instrument. Still such injuries do occur occasionally, and when they do, it is very important for the good of the patient as well as the reputation of the physician, that the diagnosis be correct and proper treatment pursued, or the patient may become blind even though the injury of itself be not sufficient to produce blindness. And it is equally if not more important to the reputation of the physician, when an eye has received an injury sufficient to produce blindness, for him to recognize the seriousness of the trouble, and be at least guarded in his prognosis as to the eventual outcome of the injury. As these cases very often come under the care of the general practitioner, there are a few things that I desire to make particularly prominent in order to assist him in the handling of such cases.

The eyeball being a globe filled with fluid, whose walls, though elastic and flexible cannot be compressed very much without rupture, and the part of the globe least capable of withstanding strain being the sclerotic, three or four millimeters from the sclero-corneal margin, we might expect as a result of this that one of the most frequent injuries to the eye from a blunt instrument would be rupture of the sclerotic. This accident is very often accompanied by injury to the lens, iris, rupture of the choroid and escape of vitreous, depending upon the force of the blow. The impact may have been hard enough to completely enucleate the lens and detach the iris, and carry it all completely through the tear with more or less loss of vitreous, or it may simply dislocate the lens and tear a portion of the iris loose, in which case there is apt to be more or less hemorrhage into the anterior chamber. Sometimes we find portions of the iris protruding through the rupture in which case it should be snipped off with a pair of scissors, and if the lens is found pressing upon the iris or ciliary body or in any other position where it would be apt to produce irritation it is best to try and remove it.

Serious as rupture of the sclerotic seems to be, the eye is seldom lost, though vision is nearly always more or less impaired, depending upon the extent of the complications. When the lens has been dislocated and successfully removed we often have nearly the same effect as after a successful cataract operation. If the lens remains in position and you simply have a separation or tear of a portion of the iris, you have a resulting coloboma or separation of the iris, which needs but little treatment, unless the separation is sufficient to allow the iris to hang directly across the visual axis, in which case an iridectomy should be performed after sufficient time has elapsed for inflammation to subside.

Whenever an opening of any size has been made into the eyeball the patient should be kept quiet. Avoid straining, coughing, or any sudden movements, more especially if there has been any considerable loss of vitreous, as in that case tension is reduced. There is also greater danger of hemorrhage into the vitreous and separation of the retina. Atropine should be instilled into the eye unless there is some decided contraindication, as tendency of the iris to protrude into the wound in which case eserine may be used. But I wish particularly to caution against the use of astringent or any irritating solutions. For a wash for cleansing I usually use a saturated boric acid solution. If panophthalmitis follows enucleation should be resorted to before there is any sympathetic trouble. One of the most troublesome as well as dangerous complications is that in which some part of the uveal tract has become fastened in the scleral cicatrix. In this case various troubles may arise. When the scleral cicatrix contracts it draws upon the entangled portion, producing irritation. This may result in irido-cyclitis and finally total loss of sight, with possible sympathetic trouble. I will say here as a general principle that whenever a blind or useless eye, or one that will in all probability become a blind eye, begins to give the least sign of sympathetic trouble in the good eye, the poor eye should be immediately removed. Again, when the rupture is far enough back, the retina may become attached to the cicatrix, and when the cicatrix contracts draw upon the retina sufficiently to detatch it, blindness is produced, which may be followed by irido-cyclitis and sympathetic trouble. Consequently, some time should elapse before you can feel sure of the results after rupture of the sclera.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The place where the sclera is usually ruptured is upward and inward and nearly always parallel to the sclero-corneal margin. **Arlt** explains this by saying that the point of application of the force usually lies below and to the outer side of the cornea. The reason for this is that the eyeball is less protected here than in other places, owing to the recession of the margin of the orbit on this side. Besides, when danger threatens the eye the lids close and the eyeball turns up, thus exposing the lower part of the sclera to the effect of the blow, which flattens the ball, causing the greatest expansion of the sclera to take place in a plane perpendicular to the axis of the force. This corresponds to the upper and inner portion of the sclera, where we find the greatest number of ruptures of the sclera.

The iris may be torn, the lens partially or completely dislocated, the retina detached and the choroid ruptured, by a blow from a blunt instrument, without rupture of the sclerotic. Any and all of these accidents are more or less serious as they may be followed by dangerous consequences. A blow sometimes temporarily paralyzes the sphincter of the iris, causing a sudden dilatation of the pupil. This may produce longitudinal tears in the iris, and, when this occurs, there is usually hemorrhage into the anterior chamber with persistent dilatation of the pupil. There is nothing special to do in these cases but prescribe rest and if there is much inflammation order cold applications for a time.

The lens may be dislocated either forward into the anterior chamber or backward into the vitreous, or only partially being held by the ligaments of one side. In this case the lens may only partially cover the pupil, giving rise to monocular diplopia. A lens dislocated into the anterior chamber should always be removed as it produces opaqueness of the cornea wherever it comes in contact with its posterior surface. But when the lens is dislocated backward it is best to leave it alone unless it is producing so much irritation you fear destruction of the eye. In this case it is usually wise to do an iridectomy, which serves to reduce tension, and thus prevent glaucoma.

When we have a rupture of the choroid there is hemorrhage into the posterior chamber, obscuring the view of the interior parts of the eye, and until the blood is absorbed it is impossible to form any accurate estimate as to the extent of the injury. If the rupture occurs near the fundus the injury is more serious as regards useful vision than when the rupture occurs farther forward. When the blood has become absorbed, with the aid of the ophthalmoscope, you may discover the seat of the laceration. There will be seen white streaks caused by the edges of the laceration, in the the choroid, separating and showing the sclera beneath them.

THE FREQUENCY, CAUSES, AND PREVENTION OF POSTOPERATIVE VENTRAL HERNIA.*

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In these days of cases by the hundred we should expect to have statistics for any and everything. Surgical operations are being done on a large scale. The results are correspondingly grand. Unfortunately complications and sequels appear in similar proportion. Were this assumption not reasonable it might be suspected from the infrequent reports and the paucity of literature on the subject that ventral herniæ following abdominal operations were of rare occurrence. That they are frequent, however, no one much involved in surgery, and especially abdominal surgery, will deny. Accurate figures on this point are not to be had. The most modest statement I have found is by Marcy, who says: "It is variously estimated by different authors that ventral hernia follows the closure of the abdominal wound after laparotomy in from five to ten per cent. of the sum total of cases." Doctor J. T. Johnson has affirmed that ventral hernia "actually happens in about ten per cent. of all abdominal operations." Greig Smith says: "That it occurs in twenty per cent. of all cases operated upon five years and upward, I firmly believe to be a fact; but we have no figures to prove it." Not to rely solely upon conjectures, some of which are even less restrained, we have the significant statement by Doctor Bull that "From March, 1891, to December, 1895, two hundred cases of ventral hernia following abdominal operations and injuries, were observed at the Hospital for Ruptured and Crippled."

Their importance, moreover, is not measured solely by their frequency. They are seldom of little annoyance. Occasionally they are by far more troublesome than the original affection. For these reasons it is assumed that no surgeon should presume to open the abdominal cavity who does not understand and apply the principles by which postoperative ventral hernia may be prevented.

The causes of this variety of hernia include those of the pelvic form. In each may be manifest the influences of heredity, age, occupation, elongation of the mesentery, parturition, obesity, as well as the more marked effects of dysuria, constipation, cough, and strain. The only essential difference is the localized change in the abdominal wall in the region of the cicatrix, on account of which the other causative factors become more effectively operative. The factorage of the scar tissue is explained by reverting to the physiological requirements of these structures. Owing to the muscular and aponeurotic framework on its forward and lateral aspects the abdomen is always full, and its walls subjected to equable pressure, varying according to their contractility, the abdominal contents and the position of the body. The several structures so recross and reenforce each other in a kind of net work that under normal conditions hernial protrusions are impossible. Hernia never takes place through intact muscular tissue. It is admitted that it may take place through fascia. The uninjured linea alba and linea semilunaris, however, possess enormous tensile power and, unless congenitally defective, are able to withstand ordinary strain. Despite the authority of Sir Spencer Wells and the inference from Doctor Marcy, we are not inclined to attach to the peritoneum much, if any, responsibility for the occurrence of hernia. The peritoneum and skin are both distensible and easily remain distended during the application of weight or pressure. The physiological functions of these tissues appear to be less those of support than of a peculiar protection to adjacent structures. Having thus eliminated all other sources we assume that the responsibility for the occurence of this form of hernia rests with the cicatrix.

The opinion is more or less prevalent that scar tissue is stronger and more unyielding than normal muscular and tendinous structures. The truth is that scar tissues from whatever source always stretch. From this tendency even the inch and a half incision cannot escape. The cicatrix becomes broader and thinner depending upon its position relative to adjacent structures and the severity of the strain brought upon it. For instance, the scar formed between the ends of a divided rectus muscle, no matter how accurately coapted, is prone to gape and will stretch much more than one formed between fibers separated longitudinally. The broader and shallower the original scar the greater the change that may be expected to finally result.

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*Read before the Michigan State Medical Society at the Detroit meeting.

It has been said that the use of a drain aids in producing a deep scar. It is generally admitted, however, that ventral herniæ occur more frequently in those patients who have been drained. The use of a drain separates to that extent the edges of the wound so that a broad rather than narrow scar is formed. Stitch abscesses also, whether due to sepsis or pressure necrosis, tend to produce the same result. Lastly, the atrophy of a divided muscle further increases the defect.

Having thus defined the source of this variety of ventral hernia and the change in the scar tissue that inevitably ensues, the surgical indications unmistakably point to some modifications in the methods of incisions and wound closures by which the normal arrangement of the parietal structures may be more nearly preserved. It is admitted, of course, that some cases are laws unto themselves. Occasionaly the saving of life forbids the deliberate procedures to be suggested. In the majority of instances, however, it would be possible to apply the principles herein involved.

For our present purpose incisions are best considered with reference to their three qualities of position, length, and direction. The position of an incision is naturally governed by the nature of an operation and the exigencies of the case. It would be folly to make an incision in the median line when one in the lateral region would conduce more to the ease, rapidity, and safety of the operation. The regions in which the several organs or portions of them are best attacked are pretty well determined and need not be mentioned here. The difficulties incident to sections near bony margins or in the thicker portions of the abdominal walls have no important bearing in this connection. As the deep epigastric artery is the only vessel of any particular moment, and as this is easily sought out and ligated, the possibility of hemorrhage is no modifying factor in choosing the site for an operation. On account of the atrophic condition of tissues consequent upon nerve section, dissection without division should be the rule.

Other things being equal the shorter the incision the less probability there is of hernia. It must not be forgotten, however, that even short incisions inevitably leave behind a permanent and irremediable weakness.

Of far greater importance than the length of an incision, provided the extent of it does not materially influence the mortality, is its direction. As has been already suggested, transverse division of either muscular or aponeurotic structures will be followed sooner or later by a material stretching of the scar, and this separation will be increased by tissue atrophy. Oblique incisions will be followed by the same result in proportion to the tissues divided. Incisions made parallel with the direction of the fibres, that is separation without division, will, if coaptation be accurate, leave the tissues practically intact. This applies, however, rather to muscular than to fascial or aponeurotic tissues. If a layer of intact muscular tissue lies above, below or alongside other separated or divided tissue, the latter is thereby much strengthened and the liability of hernia is much lessened. This explanation is offered for the less frequent occurrence of hernia after longitudinal division through the linea alba and linea semilunaris. Opening of the sheath of the rectus is on this account productive of strength as muscular tissues are thereby brought into the wound.

As the cicatrix naturally tends to become broader and thinner the attempt should be made to render it as narrow and deep as is consistent. The first requirement is met by accurate coaptation of like structures. The second is effected by bringing a consistently large bulk of tissues within the sutures. Of these the muscular should form the larger part. The results obtained by the use of separate lines of buried sutures do not belie the safety of this method. Neither can we gainsay the utility of the mass suture method, when properly applied. By proper is here meant the inclusion of more muscular tissue than skin within the sutures. This may be accomplished by gently retracting the skin before inserting the needle. There can be no question but that this is a simpler and more speedy method of closing the incision than by the use of two or more lines of buried sutures. The similarity of scar tissue, whether formed from muscle or fascia, lessens the necessity of overnice juxtaposition of corresponding layers. Furthermore, as GREIG SMITH has pointed out, the suture of the separate layers may be objected to for the reason that it "devascularizes the lines of union and narrows them. Such a suture leaves a series of gaps to be filled with clot, between each layer at the line of junction; there is not one flush meeting of the whole of the rawed surfaces as in the mass sutures. Also the cicatricial tissue dipping into these hollows is longer, therefore more easily stretches; while the bulk of it in depth not being so great is not so strong." However, the particular method used is not of such essential importance as the method of incision. So long as the divided tissues are closely approximated, sepsis avoided, and the tissues firmly held in juxtaposition until a mature cicatrix has had time to form, which ordinarily requires three or four weeks, other pains may be regarded as a refinement.

To summarize and apply the principal points: Postoperative ventral herniæ are assumed to result in at least one in every five cases of laparotomy as at present performed. They are of sufficient importance to deserve prevention. The principal cause is the stretching of the scar tissue following transverse or oblique division of the abdominal muscles. Wherever possible tissues should be separated, not divided. In the median region incisions should always be vertical and penetrate the sheath of the rectus muscle. In the lateral regions separation of each muscular layer without division of the fibers should be practiced in every instance possible. If retraction of all the layers without division be impossible, separation should be effected at least in the most important muscular layer. All incisions should be as short as practicable. The edges of a wound should be accurately, not too tightly, coapted; consequently stitch abscesses and other evidences of sepsis must be avoided, and as far as possible drainage should be dispensed with.

27 ADAMS AVENUE EAST.

VAPOR MASSAGE IN THE TREATMENT OF RESPIRATORY AND AURAL AFFECTIONS.*

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THE application of massage by trained manipulators has reached such a state of development that it is almost entitled to be classed as a distinct art. Its value in the treatment of many diseased conditions, both local and constitutional, is recognized by every progressive physician.

Historically, massage can be traced back to the inception of the Chinese Empire. About the beginning of the nineteenth century this method of treatment was placed on a practical and scientific basis by LING, the Swede, who also originated the Swedish movement cure. In 1860 massage was placed on its present basis by ESTRADERE.

There are, primarily, three ways in which benefit is derived from the application of massage: First, by direct action, stimulating cell activity; second, by improving the circulation; third, by reflex action through the nervous system.

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* Read before the MICHIGAN STATE MEDICAL SOCIETY, at the Detroit meeting.

By this combined action the nutrition and other vital processes are improved, excrementitious matter and inflammatory products are more rapidly removed and the circulation is equalized. The manipulations or movements of massage as ordinarily applied may be placed in three general divisions: stroking or friction, tapping or percussion, and kneading.

I mention thus briefly a few general facts, with which everyone is more or less familiar, because I wish to demonstrate that practically the same effects can be produced with equal, and in many instances greater benefit in the treatment of diseases of the respiratory organs and middle ear, wherein manual massage is not available on account of the location of the organs involved.

As the title of my paper indicates, I have used the term "vapor massage" to designate the method of treatment to be described, because vapor in one form or another is the only medium by which the necessary force can be applied. Obviously it is impossible to materially affect the thoracic viscera, naso-pharynx, nasal sinuses and middle ear by means of manual manipulation. Vapor massage, as I employ it, described in general terms, consists in applying vapor under more or less pressure and with more or less frequent interruptions. When the mechanical effect alone is desired, simply compressed air may be employed, but in most cases the conditions are such that some form of medication is desirable and in fact is often essential in order to obtain wholly satisfactory results.

Special skill and training are not necessary to administer this treatment. Any physician with a very little experience can apply vapor massage successfully as an office treatment, and obtain most satisfactory results. Its use should not be limited to specialists. It is the family physician who sees the acute cases in the early stages when they are most amenable to treatment. The only apparatus needed is an air compressor and receiver of the ordinary style, together with a device for medicating the compressed air. The medicator should be so constructed that it will stand an internal pressure of twenty pounds or more to the square inch, and should be provided with a valve at its outlet which is capable of being opened and closed very rapidly. This valve should allow the free passage of vapor, and at the same time be capable of adjustment to a very small opening when only slight impulses are desired. A mouthpiece and nasal tip should also be provided. These are combined with the medicating device by means of a flexible tube.

For pulmonary applications, the mouthpiece is used. This consists of a simple straight piece of hard rubber tubing, around which the patient's lips are closed, making an air-tight connection.

For massage of the middle ear, nasal cavities and sinuses, the nasal tip is employed. It should have a bulb end adapted to seal the nostril, the opposite one being closed by pressure with the finger.

As in manual, so in vapor massage, the manipulations may be placed in three divisions: The first consists of a general inflation at moderate pressure and corresponds in effect to the stroking movement. The second is a more rapid and forcible inflation at higher pressure, which is suddenly released, and corresponds to the kneading movement. The third is similar to the second, except that as the maximum pressure is reached the flow of compressed vapor is rapidly interrupted, producing a series of impulses or vibrations, and corresponds to the tapping or percussion. The effect upon the tissues is identical with that produced by manual massage when applied to the superficial structures. The clinical results are even more prompt and satisfactory.

There is scarcely a single disease involving the respiratory organs, either acute or chronic, in which this method of treatment is not indicated, because in almost every instance there are disturbances of the circulation, nutrition and cell activity, and we have the added benefit to be derived from suitable local medication. The importance of employing the most effectual methods in the treatment of respiratory affections, which are responsible for a large per cent. of the total mortality, cannot be overestimated. Acute bronchitis and broncho-pneumonia form the recruiting ground for the army of tubercular invasion.

An examination into the history of tubercular cases reveals the fact that in the majority of instances the disease began with a "cold on the lungs," which was not thought to be serious. These acute attacks yield with remarkable rapidity to vapor massage, and I believe it our duty to promptly remove these sources of danger in every instance, instead of neglecting them as is frequently done. Even after tubercular infection has occurred, I firmly believe from my own observations that a very large per cent. of cases, if treated early, can be cured without change of climate. In the first stage of tuberculosis there is always localized obstruction of the circulation, impaired nutrition and inflammatory deposits, due to the presence of the tubercle bacilli. Why not, then, bring to bear against this disease a method of treatment which tends to overcome these very conditions? If we can in this way maintain the circulation and nutrition in the affected area, caseous degeneration and breaking down of lung tissue will not take place and the disease will be confined to the original area of infection. Besides, the use of antiseptic vapors tends to diminish the vitality of the bacilli, and to fortify the uninvolved tissues against infection.

Much more might be said along this line, but I will forbear, as my primary object is simply to call attention to the possibilities of vapor massage in this class of cases. I know what it will do in noninfectious diseases of the respiratory organs. I also know what it has done in a limited number of tubercular cases. I have been surprised at the results in several instances. My experiments in this line have only extended over the past two years, and in a private practice I have not been able to place a large number of patients under observation. I will say, however, that the results thus far have been very encouraging.

Before leaving the subject I wish to refer briefly to the use of vapor massage in the treatment of the middle ear and nasal sinuses. I have treated quite a large number of these cases with much more satisfactory results than were ever obtained by other means. There are a number of other observers who, at my suggestion, have employed vapor massage in these cases and have been highly pleased with the rapid improvement which has followed. The vibration or percussion movement is very valuable in overcoming contractions, adhesions and anchyloses of the tympanum. I trust that others may be induced to give this method a thorough trial and report results, as by this means only can its real value be permanently established.

TWO CASES OF JOINT INJURY—SHOULDER AND KNEE.*

By HAL C. WYMAN, M. S., M. D., Detroit, Michigan.

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A man, aged sixty-four years, a Canadian ditcher and farm hand, was riding in a cart last February when the horse became unmanageable and the man and a companion were thrown out. The ground was quite hard and he struck on his back and shoulders and in consequence suffered great pain, so severe through the shoulders that he could not get relief even after being attended by a skillful Canadian physician for several weeks. He could not raise his elbows from his sides, but could move his hands and forearms naturally. When eating he raised his food with fork or spoon until the forearms were flexed on the arms and then inclined his head forward until he could reach the food with his lips.

Some of the physicians whom he consulted thought his shoulders were dislocated and that they should have been reduced at the time he was thrown from the cart, and he came to me for advice as to replacing them. He entered the Emergency Hospital on the 15th of April, 1898, and appeared in my service the next day. His general appearance being thin of build and bent forward, indicated a man much older than he is. I could not learn that he had ever had any bad health. His teeth were sound and his skin, though wrinkled, was clear and elastic.

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*Read before the Detroit Academy of Medicine.

Both shoulders were flattened from the acromion to the deltoid depression and there was absolute flatness where the deltoid muscles should make the shoulders smooth and round. The head of the humerus could be felt in each axilla. When passive movements of the shoulders were made the articular surfaces could be made to approximate, but as soon as the movements ceased the head of the humerus dropped away from the glenoid fossa and appeared in the axilla tilting the elbows on each side a little away from the body in a position quite characteristic of dislocation downward of the humerus. Both deltoids are atrophied so that it is quite impossible to get any contraction from them. The case is to me unusual. I have never before seen an injury of this sort affecting both shoulders. Apparently the trophic and motor nerves on each side are paralyzed in their relation to the deltoids.

A man forty-two years old, by occupation a builder, fell in getting out of a wagon and struck his knee upon the sharp edge of the hub two years ago. The limb immediately became useless and the man was carried to his home in great pain and unable to walk. His physician was called and found a deep indentation of the skin above the attachment of the quadriceps extensor femoris to the patella and so close to the latter that he could easily feel that the conjoined tendons of this muscle were entirely separated from the patella. The muscles were retracted up the thigh and he could not make the tendons approach the separated patella. The skin was not broken. He was reluctant to open it and suture the tendons to the kneepan for fear of subsequent inflammation of the knee-joint. The parts were badly contused and the doctor thought the joint fluids had escaped into the adjacent tissues. He put the injured limb on a straight splint and endeavored to make the severed bone and tendon approximate by securing it with a roller bandage. There was a great deal of swelling of the knee and pain for four weeks after the injury, but at that time it began to disappear. He continued the use of the splint for three months and then he was allowed to walk without any support, which he did remarkably well.

The case was brought to my clinic for operation to restore union between the extensor muscles and the patella as they were apparently separated about four inches. The man could not extend his leg when the thigh was fixed and thus demonstrated that the function of the quadriceps extensor femoris was destroyed so far as the leg is concerned. But he could walk well, having learned to throw his leg with his thigh so that there was scarcely a fault noticed in his step. He carried a cane because he felt safer walking with it and had never fallen because of any weakness in the injured limb. I refused to operate as I did not think a union of tendons and patella would enable him to walk any better than he is walking now.

EMPYEMA, WITH REPORT OF CASES.*

By R. J. KELLY, M. D., Detroit, Michigan.

[Published in The Physician and Surgeon exclusively.]

From a pathological standpoint, empyema, or purulent pleurisy may be divided into a number of varieties, according to the etiological or bacteriological forms, but for the great majority of practicing physicians it would correspond more to the actual requirements to consider empyema as an entity, rather than as several distinct affections. I shall, therefore, refer to the different forms, as occasion demands, merely in a general way, without any attempt to go into the details.

Empyema is essentially a secondary affection. Where it appears to be primary, it is highly probable that the original focus of suppuration has been

*Read before the Detroit Medical and Library Association.

overlooked. In this particular respect it resembles peritonitis. It may consequently be stated that empyema is due to a microbic invasion of the pleural cavity. During the past decade investigators have greatly widened our knowledge on this subject, and this enlightenment has been of considerable value to us in establishing the essential and primary cause of the disease. The variety of microbes most frequently found are the streptococcus and staphylococcus pyogenes, and the pneumococci. Several other varieties have also been observed, with much less frequency.

The diseases most frequently ascribed as the cause of purulent pleurisy are pneumonia; malignant diseases within the mediastinum, especially abscesses and purulent pericarditis; tuberculosis; infectious diseases, as typhoid fever, scarlet fever, diphtheria, and erysipelas; traumatism, especially when due to penetrating wounds; and compound fracture of the ribs. Many other causes may be added to the forgoing, but they are comparatively infrequent.

The chronic character of empyema is one of its most prominent features. It may be purulent from the onset, or the effusion may be serofibrinous at first and gradually becomes changed into pus; and it is quite difficult to determine with any degree of accuracy, by a physical examination, when the change does take place. Of course the longer the case continues beyond a certain period from the onset without any apparent improvement, the more the probability of pus. The streptococci may be abundantly present, and there may be a focus of suppuration somewhere, yet the effusion retains the serofibrinous appearance. I will refer to a case later on illustrating this point.

The disease may begin with acute or subacute symptoms. In certain cases it is so insidious as to be scarcely observed at first. At other times, as in the event of the rupture of a tuberculous abscess into the pleural cavity, it commences with great violence. Usually it is ushered in by chill, painful cough, dyspnea, and rise of temperature. There is nothing at first, however, to suggest that the effusion is purulent. As the disease progresses the constitutional symptoms are very pronounced; the temperature rises, rigors are frequent, and the tongue presents a brown and dry appearance. In the subacute form the symptoms are similar, but much less prominent. The temperature, instead of falling at the end of a week or ten days, as in serofibrinous effusion, continues. The morning temperature may be nearly normal, while the evening temperature reaches 102° and 103° Fahrenheit, and soon a regular hectic fever is established, and the general condition begins—as a rule—to present marked signs of septic absorption. Night sweats are frequent, the appetite is lost, and there is progressive emaciation and weakness. There is a decided dyspnea and cardiac asthenia. There is liable to be swelling of the ankles, and, in the course of time, the fingers may become distinctly clubbed. The course of the disease, from this time on, varies. The appearance of the chest is very significant. Just below the clavicle it is somewhat flattened, but bulging out toward the lower part, the tendency of which may be observed in the photograph of a case I will refer to later on. The respiratory movements and fremitus disappear; the heart is likely to be displaced; vicarious emphysema of the part of the lung not directly affected by the pressure of the fluid is apt to develop. The respirations are short, and it is impossible to take a full breath. It is different, however, from the labored respiration of asthma, which the friends are liable sometimes to mistake it for.

When the disease is allowed to follow its own course without surgical interference, the escape of the pus may occur spontaneously. It may perforate the lung and escape by the bronchial tubes through the mouth. This may, however, lead to sudden death in a weak person, by filling the bronchial tubes and causing suffocation. It is also liable to cause pneumothorax. It is not likely, in any event, to effect a permanent cure, for obvious reasons. It may, however, escape through the thoracic wall by burrowing its way through the intercostal spaces. This, while giving great relief, will afford but imperfect drainage, and a pus sinus is likely to continue indefinitely.

As before stated, empyema does not present, at the beginning, any characteristic physical signs which distinguish it from the serofibrinous form, yet an early diagnosis is of the utmost importance. It is, therefore, wise to explain the condition of the case just as soon as the presence of pus is suspected, and to obtain consent to make an exploratory aspiration, with the privilege—in the event of pns being found—to continue the operation of making a free opening into the pleural cavity and establishing free drainage. The great majority of cases will justify a favorable prognosis under those circumstances, while neglect is more than likely to lead to serious, and perhaps fatal results. Of course, the concomitant disease will have to be considered in giving a prognosis. There is no treatment that I know of that is likely to produce any curative effect, as absorption seems quite out of the question when the retained pus is of any quantity.

Surgical interference is, therefore, the only resort, and a free opening and drainage is the only procedure recommended. The result of aspiration alone is almost sure to be negative, the pus returning in an incredibly short space of time. Should the aspiration, for any reason, be resorted to (and it is frequently judicious to aspirate once before the drainage is commenced, in cases of very weakened condition of the system, when it may not be desirable to remove the whole quantity at once), several methods may be employed. An aspirator made for the purpose is often used. I have tried a method which consists of withdrawing the air from a hermetically sealed jar, to which a rubber tube and aspirator is attached. The aspirator is introduced through an intercostal space, and the fluid withdrawn by means of the suction force from the jar. Careful aseptic precautions should be taken, for the contents of the pleura may not be pus as expected; but it is more important to avoid the introduction of air into the pleural cavity, which would result in pneumothorax.

The operation for drainage should be made between the ribs, as low down as possible, and far enough posteriorly so as to secure the advantage of gravitation in draining. In an adult it is generally necessary, and certainly good policy, to remove a portion of a rib, and, if necessary, two. There will be no trouble about closing the sinus once the pleuritis is cured.

I take the liberty to present reports of three cases which differ widely in their forms, but are just such typical cases as the general practicing physician may meet with.

Case I.—A girl two years of age. I first saw her in January, 1895. I made a cursory examination, and my diagnosis was capillary bronchitis. I continued to see her, and treated her for some two or three days when, upon a more thorough examination, I found a considerable dullness over the lower part of the right side. This I attributed to pleurisy with effusion. The parents became impatient over the slow progress of the child toward recovery, as a result of which I discontinued my services.

I saw or heard nothing of the case until the following June, when I was again called. I found she had been sick ever since, and that they had had a number of physicians from time to time most of whom, I was told, diagnosed the case as pulmonary tuberculosis. The child was then very weak and emaciated, and her condition was very unpromising, to say the least. She was suffering greatly from cardiac asthenia, dyspnea, breathing with the greatest of difficulty; lips cyanosed; limbs extremely emaciated. The chest, and more particularly the abdomen, appeared to be greatly distended. Physical examination disclosed dullness over the whole of the right side. The left side appeared to be in a condition of vicarious emphysema. Remembering that when I last saw the child in January I was convinced that she was then developing a pleuric effusion, the diagnosis was immediately arrived at of purulent pleurisy, the serofibrinous effusion having developed into pus. The parents were now only too anxious to resort to any expedient that would give relief, and readily consented to an exploratory aspiration. This I did by means of an aspirator and Allen pump, and withdrew about fifteen to twenty ounces of pus, the odor of which was very offensive. I did not attempt to evacuate the entire amount of pus, fearing that the depletion of the body, already extremely weak, by the sudden withdrawal of such a large quantity of fluid might result in the collapse of the child and its death. Much to my surprise and gratification, however, the next day it seemed much relieved and revived. After a lapse of four or five days I made an incision between the fourth and fifth ribs, evacuating a large amount of pus, probably a quart, much of which had accumulated since the aspiration. I placed in the wound a rubber drainage tube one-fourth inch in diameter, in the middle of which I made an opening about one-half inch long, and doubling it upon itself so as to make a double drainage tube, I inserted this just far enough to clear the thoracic wall, and not far enough to injure the lung during respiration. I retained the tube *in situ* by means of a piece of flexible rubber about one by two inches, through which were openings corresponding in size with the drainage tube. Great care was taken to secure the tube firmly so as to prevent the possibility of its slipping into the pleural cavity, an accident which might result seriously. To insure safety the tube was fastened by means of a silver wire passed through the tube on the outside of the rubber clamp. After placing this in its position I secured the rubber clamp to the side of the chest by means of a piece of adhesive plaster at either end. By this method the drainage tube could be removed when necessary to cleanse it, and replaced without the least inconvenience. I then put on an ordinary dressing of gauze over which I placed a large piece of rubber, the whole being secured by a roller bandage.

The after treatment consisted in removing the dressings twice daily, and cleansing the cavity by means of a fountain syringe, the nozzle of which was placed in one opening of the tube, and the flow allowed to escape through the other until it became clear. For cleansing purposes a carbolized solution of warm water was used, followed by a solution of peroxide of hydrogen. This treatment was continued for eight or ten weeks, the amount of pus becoming less each day, until it finally ceased entirely, and the drainage tube was removed. The sinus healed up in a few days, and the child was soon able to run around, and became as strong and healthy as any child of that age is expected to be. Since then there has been no sign of any return of the effusion, and no evidence of tuberculosis, or other trouble, has been manifested.

About four or five weeks after the operation had been performed a photograph of the case was taken, showing the position of the drainage tube, and which I will pass around for inspection. The limbs have very much increased in flesh since the operation; the lower part of the chest and the abdomen still present, to a certain degree, the distended or bulging appearance which characterized the case before the operation.

Case II.—A well-known athlete of this city, while exercising in a gymnasium, received a severe strain which affected his left side in the region of the fifth or sixth rib. He felt as if something internally had ruptured, and suffered a great deal of pain as a consequence, especially during respiration or when coughing. I did not see him, however, until about three weeks after the accident occurred, when I was called in consultation. He appeared very pale and weak, and the expression of his face seemed pinched. He complained of severe pain in the region of the injury. His temperature had been from 101° to 102° Fahrenheit daily, and pulse 110°. He had occasional chills, and also a dry hacking cough. Upon examination, a considerable area of dullness over the seat of pain was found; the respiration was bronchial, and vocal fremitus diminished. We decided without hesitation that there was liquid of some kind in the left plural cavity. It might have been either serofibrinous or purulent, and, possibly, sanguineous, the result of an internal hemorrhage at the time of the accident. The symptoms, to my mind, however, indicated pus. He readily submitted to an exploratory aspiration, which was done by means of an aspirator and syringe. The dull area being situated just posterior to the heart, great care had to be taken to avoid touching it with the aspirating needle; hence, it was necessary to follow a slanting direction, forward and inward, between the fifth and sixth ribs. The first attempt was unsuccessful, but the second time I introduced the needle lower down, in the next intercostal space, and more directly forward. The result was a small quantity of fluid of a serofibrinous appearance, and slightly inclined to be sanguineous. Although I rather expected to see it more of a purulent nature, yet it may have contained a quantity of pus which was unobserved to the naked eye. Had a microscopic examination been made I have not the slightest doubt but that it would have shown a very large amount of streptococci present, and probably a considerable quantity of pus. Without the least doubt there was a primary focus of pus somewhere, although it may have been very small. The result of the aspiration, which was very favorable, would indicate this. The fever disappeared entirely within a day or two, and the other symptoms rapidly subsided. Patient's appetite returned, and he was able to be out on the third day. He returned to his work in the gymnasium the sixth or seventh day after the aspiration.

Although this case, strictly speaking, could not be regarded as one of empyema from gross appearance, yet I report it to show an instance wherein an apparent serofibrinous effusion presents objective symptoms and indications of purulency, and of the difficulty of establishing a positive diagnosis without the aid of an exploring needle. Furthermore, there is no doubt, to my mind, but what the case would have developed into a typical case of pyothorax in a short time.

Case III.—A young painter, a resident of Canada, about six months prior to the time I saw him was taken with a severe pain just beneath the right clavicle, where a hard lump developed. An incision had been made into this swelling and a very large amount of pus escaped. When he came to Detroit this opening was still discharging a little pus, but, in addition, he was expectorating a large amount of pus daily. He was suffering greatly from dyspnea. The general appearance of the man resembled that of a consumptive. In fact his affection had been regarded as pulmonary tuberculosis, and he was treated for it. He was rather thin, cheeks ruddy, and fingers decidedly clubbed. The right side of the chest was flattened above, bulging and distending below. The intercostal spaces below the second rib were obliterated. Respiratory movements and vocal and breathing sounds were completely absent. The contents of the left side of his chest were encroached upon by pressure, and the apex beat of the heart was one or two inches to the left of the normal position. The left lung, however, presented nearly normal sounds. The diagnosis was made of empyema, which had existed at least from the time of the formation of the lump below the clavicle six months previously. I had his sputa examined for tuberculous bacilli by DOCTOR W. C. MARTIN, but none were found after repeated trials.

The patient refused, at first, to have an opening made, but submitted to thoracentesis. I began the operation by first hermetically sealing the sinus at the upper part of the chest, and aspirated through the sixth intercostal space. I used for this purpose a jar, the air from which was evacuated as previously described. I withdrew nearly a quart of greenish colored pus. I noticed, toward the last, some bubbles of air. After the needle was removed the pleural cavity became rapidly filled with air, and the whole side was resonant, due to the entrance of air through the pulmonary fistula. The case had, therefore, been converted into a pyopneumothorax. The improvement after the operation was only temporary, and the expectoration of pus continued the same as before. The patient now readily assented to an operation for the purpose of establishing free drainage, and an incision was made over the sixth rib, a section of which was removed. A large sized piece of rubber drainage tube was inserted, in a manner similar to that described in Case I. The cavity was cleansed thoroughly morning and evening with Labarraque's solution, and later on with peroxide of hydrogen. The dressing consisted of oakum, over which rubber was put. The discharge was copious at first, amounting to several ounces each day. The expectoration of pus ceased almost entirely at the end of the first week. The pulmonary fistula did not, however, close for sometime afterward, as a solution of permanganate of potash—when used for cleansing the cavity—would indicate by its presence in the expectoration. It ceased, however, during the third week. The treatment was continued for eight weeks, the discharge growing perceptibly less each day, until it ceased entirely and the drainage tube was removed. The sinus healed up, and at the end of three months the patient had gained twenty pounds and felt strong and well, and was free from cough or expectoration. He could walk around town without dyspnea or other inconvenience. I hear from him occasionally, and he is working every day and enjoying the best of health. In regard to the primary cause of the empyema, I learned that sometime prior to the onset of the disease he had had an attack of erysipelas, and this may have been the primary exciting cause of the disease.

BICYCLING: FROM A HEALTHFUL STANDPOINT.

BY THEODORE R. MACCLURE, LANSING, MICHIGAN.

THE BICYCLE FACE.

SOME ingenious opponent to the wheel has coined this term, and many have been terrified therefrom not knowing what the condition meant. I do not doubt that there is a facial expression that may be designated by that term, but that there is a permanent face of that nature I would not be disposed to admit.

The bicycle face is seen only in beginners, and comes from the anxiety or uncertainty of the individual. Until the beginner has learned to ride, and until balancing becomes a second nature there is liable to be an anxious expression on the face. The same expression would probably be seen in beginners in other arts that carry with them a certain amount of danger, as the person learning to ride a horse, to swim, et cetera.

CARE OF THE EYES.

There are many times during the year, and it may be common especially during the dry summer months, when riding a wheel might have some temporary bad effect on the eyes. The glare of the sun, dust, flies, et cetera, might cause a weak condition of the eyes, and would be quite likely to make naturally weak eyes weaker. If a rider has trouble with his or her eyes he or she should consult an oculist, and ascertain if there is cause for glasses that would correct any difficulty there may be. The occurrence of headaches, pain over the eyes, et cetera, might indicate the presence of some eye trouble. In such cases glasses should be put on without regard to the wheel. If there is no eye trouble except that which may come from the dust, flies, et cetera, it would be well to have a pair of blue glasses, or glasses without strength, to protect the eyes from the introduction of foreign matter during wheeling.

INFLAMMATION OF THE KIDNEYS (NEPHRITIS).

There seems to be more or less anxiety that inflammation of the kidneys may result from *overriding* on the bicycle. **MUELLER** has carefully investigated the urine of twelve persons after severe muscular strain in bicycle riding. In the urine of eleven examined, or ninety-two per cent., he found albumin, and in eight out of twelve, or sixty-seven per cent., a considerable number of all, casts, in six of which the casts were as numerous as seen in acute and chronic forms of parenchymatous nephritis. In two (sixteen per cent.) he found a few true hyaline casts, with albumin, and in another there were casts of every variety, and kidney epithelium, but no albumin. The urine of two persons, or sixteen per cent., was constantly normal. The investigations confirm those of **STABLEWSKI** and **LEUBE**, that excessive muscular exertion can cause albuminuria. It is therefore a physiological or functional albuminuria of short duration. It differs from other forms of physiological albuminuria, in which few or no casts are found. The casts here, however, were only found with the centrifuge after forced riding, racing and excessive muscular exertion. That frequently repeatd overexertion in bicycling might, by constant irritation, produce true chronic nephritis appears quite possible.

THE BICYCLE AND APPENDICITIS.

It is alleged that there is some connection between bicycling and appendicitis. "The condition is caused, it is thought, by the contractions, too frequent or too violent, of the psoas-iliacus, which bicycling involves. Hence results contusion of the appendix, followed by desquamation of its mucous membrane; this makes a breach through which infective agents find their way into the walls of the appendix and set up inflammation. The straining caused by going up hill makes the danger all the greater. In persons who have already suffered from appendicitis, bicycling may easily lead to rupture of adhesions, and to the development of acute trouble."* Some physician has been so impressed with the dangers from appendicitis that he has recommended a systematic removal of the appendix in children as a prophylactic measure. In these days when bicycling is so fashionable, effort is made by some to prove the bicycle the cause of all kinds of ailments; it is not at all surprising to hear of its being a causative factor in that "popular" trouble with the appendix vermiformis. Doctor G. A. Armstrong, of Toronto, who is a recognized authority on appendicitis, expresses his belief that there is no relation between wheeling and this disease.

BICYCLING AND HERNIA.

Doctor George W. Miel, of Denver, Colorado, points out the fact that bicycle riding is a cause of inguinal hernia. He says "in considering the causes—picture to yourself the usual bicycler astride his wheel; with thigh more or less flexed, his body bends forward, the abdominal contents resting and pressing upon and against the inguinal abdominal wall. It is manifest that he needs only abduction of the thigh to favor, and then sufficient strain to induce inguinal hernia.

"About a city or on a road the wheel may slip sidewise in sand, gravel, mud, or on wet pavement; especially in turning, or in crowding a car track, or the side of a wagon track in hardening mud; to escape a fall the rider may have occasion to make what might be termed a grand effort, with straining pressure on one pedal to maintain his equilibrium; in which he balances to the opposite side, but turns his wheel sharply in the direction toward which he is falling, at the same time throwing his knee wide to clear the handle bar; the pedal exertion falling on the same side. If the pedal be high at the instant he must strongly abduct and flex this thigh. Those acts are instinctive and not wholly under his control or of his choosing; they are therefore not easily followed."

Then, again, hill climbing and riding against wind may also carry with them considerable risk. There would probably need to be a weakness; if the inguinal ring were naturally inclined to be open, hernia might result from some of the above mentioned causes, but it is quite improbable. It might result from coughing, sneezing, blowing wind instruments, et cetera, or other similar straining effort.

PARALYSIS OF THE THIRD AND FOURTH FINGERS.

The writer's attention was first called to this subject by personal experience. It was noticed in the spring after a ride of fifty miles that there was complete loss of feeling in the third and fourth fingers, especially of the left hand. The numbness continued according to the length of the ride, varying from two days to a week. The numbness was noticed even after a ride of fifteen or twenty miles without resting. The trouble seemed to have come from undue pressure or gripping of the handles, and the elevation of the handle bars had a direct bearing. The condition probably came from pressure upon the branches of the ulnar nerve. No doubt the vibration of the handle bars had some influence. Wearing gloves seemed to prevent, to some degree, the numbness, as would also guiding the wheel by grasping the bars near the head, or by grasping the handles between the thumb and forefinger, thus avoiding any pressure upon that portion of the hand where the branches of the ulner nerve are distributed.

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* *British Medical Journal*, April, 1897.

It was also found by the writer that as the season advanced there was not so much trouble of this kind, unless after a very long ride and the above mentioned precautions were neglected.

A pneumatic or cushion handle for the bicyclist to grasp might be an accessory worthy of consideration.

Since the first of the writer's experience, he has searched for similar cases and finds that the medical literature has reported a number. In some cases atrophy of the fingers affected follow the paralysis. Precautions against this affliction are worthy of adoption, especially in office clerks and others whose hands are soft and susceptible to it.

OTHER AFFECTIONS OF THE NERVOUS SYSTEM.

Space is too limited to go into details concerning the various conditions of the nervous system which may result from the use or rather the abuse of the wheel. Such conditions as temporary or permanent paralysis of the lower extremities, loss of sensation in the penis, perineum, complete permanent paralysis of the bladder and anus, et cetera. Doctors Semple and Taylor, of England, have given this phase of cyclying considerable attention, and have recorded cases that have come under their observation.* Many such cases have been recorded and many more yet remain to be made a matter of record.

Doctor Furnivall, assistant demonstrator of anatomy in a London college, publishes his personal experience prior to the time of acquiring his profession.† His contribution relates not only to conditions experienced by himself while he posed as a professional racer, but cites the experience of other professionals. What Doctor Furnivall narrates is in accord with the experience of others, and confirms the observations of Doctors Semple and Taylor above referred to.

The writer has in mind a case of so-called "multiple neuritis" in a young man who was in the habit of taking "century runs," and who was stricken down after such a ride, the cause of which undoubtedly had a direct connection with the use of the wheel. That numbness in the perineum and contiguous organs after long rides on bad saddles is produced one has but to inquire amongst wheelmen to verify the statement. There are probably many serious cases that could be placed on record as having been traced to the use of the wheel. This phase of wheeling is of great importance, and should receive the attention of every cyclist. Whenever there is numbness of parts of the body, or other abnormal condition produced, it would be well to seek the cause, and if necessary consult some competent physician in order to prevent any disaster which might occur if the practice causing the trouble were not immediately checked.

The attitude the rider assumes on the wheel has an important bearing on all of the above mentioned troubles, but the size, shape and tilt of the saddle has equally as much influence. The "wedge-shaped" thing designated as the "saddle" is undoubtedly responsible for most all the trouble. Just what kind of saddles are best, and the use of such saddles, will be dealt with under another head in this paper.

HEART STRAIN.

One, if not the most, serious condition which may result from the abuse of the wheel is heart strain, due to overtaxation during long, rapid or quick short rides.

London Lancet, April 7, 1897, page 1084.

†*London Lancet*, May 29, 1897, page 1502.

DOCTOR ALBU gives the results of his investigations on twelve professional cyclists whom he had examined both before and after races lasting from five to thirty minutes. The strain on the heart was shown by well-marked dyspnea (difficult breathing), and by strong pulsation of the heart and arteries, but the most remarkable fact was acute dilatation of the heart, especially of the left ventricle. This dilatation was temporary, disappearing after rest and returning after another race. When overexertion is frequent this dilatation may become permanent, and in a heart that was previously weak an irreparable injury may occur.*

A symptom of heart strain is mouth breathing, and when this occurs the rider should give the warning attention. Another symptom may be the appearance of albumin and casts in the urine, caused probably by the kidneys being irritated by this unusual effort of cycling; perhaps no more so than by any exercise of equal violence, increasing the circulation and increasing the excretory action of the kidneys.

PETIT† records three cases of sudden death from use of the wheel. In each case there was a history of heart trouble which, by overexertion, caused the death. While few sudden deaths may occur, the entailments which result from this violent exercise may be many, severe and lasting. The overexertion might have been induced by some other factor and caused the same result, but the wheel is a likely source of such overexertion. A hard ride or a sudden spurt may mean sudden death. There are numerous cases of this kind on record. Such cases of heart failure seem to more frequently occur in fleshy persons; because of their flesh, the respiration and heart action are somewhat restricted, causing a congestion and possibly heart failure.

DOCTOR G. M. HAMMOND, professor of mental and nervous diseases, New York, has made an extended study of the condition of the heart in amateur and in professional riders. Some of his findings are collected in the following table, which I take the liberty to quote:

Cases.	Age.	Ridden a Wheel. Years.	Miles Ridden.	Chest Expansion. Inches.	Heart.	Muscular System.
1	37	5	22,000	1¾	Slight hypertrophy..	Well developed.
2	25	10	27,000	1¼	" "	Legs well developed, arms and trunk fair.
3	36	5	8,000	2	" "	General development greatly beyond normal.
4	42	12	24,000	1½	" "	Well developed.
5	46	13	25,000	1	" "	Average.
6	24	13	14,000	1⅞	Normal	Well developed.
7	25	10	20,000	1¾	Slight hypertrophy..	" "
8	34	7	18,000	1⅝	" "	" "
9	30	8	9,000	1⅜	" "	" "
10	29	7	8,000	1⅞	Slight hypertrophy..	" "
11	26	7	17,000	2	" "	Generally very muscular.
12	24	6	7,000	1¼	Normal	Average.
13	39	5	6,000	1⅛	"	"
14	24	5	5,000	1½	Slight hypertrophy..	Well developed.

"Average chest expansion, 1 4-7. Heart usually hypertrophied without dilatation. Average age, thirty-one years. Chest expansion, thirteen riders above normal; one normal."

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*London Lancet, June 5, 1897, page 1578.

†Medical News, October 13, 1894, page 412.

The above table exhibits **Doctor Hammond's** experience with fourteen amateur riders whom he has had under his observation, and of whom he had definite information.

In explanation of the table he says: "This table demonstrates two important facts very clearly. First, that men who have ridden a great deal for a number of years have acquired simple cardiac hypertrophy without dilatation; and second, that their breathing capacity is greatly in excess of that of the average man. The cardiac hypertrophy that I refer to is due to a simple increase of muscular tissue, and is in the nature of a healthy growth or development induced by exercise. It is precisely similar to the hypertrophy which occurs in any other muscle which has been used a great deal." A condition that carries with it no idea of organic disease, but of normal increase.

It has been found by actual measurement that the normal chest expansion after a full breath is one inch, but varies somewhat in different individuals. It will be seen by the foregoing table that the chest expansion in the fourteen riders was either normal or above the normal. Also that the condition of the heart and of the muscular system was above the normal.

However, if this exercise were excessive and the hypertrophy of the heart tissue was considerable, as in the case of professional racers, the muscular elasticity would be impaired and sooner or later the heart would give out, resulting in heart failure and sudden death.

Fainting, and possibly heart failure, may be due to an autointoxication by carbon dioxide (CO_2). During great physical exertion, combustion of the bodily fats is very rapid, giving off CO_2 and water. CO_2 in the blood causes the short breath and mouth breathing, and an excess of it causes fainting and possibly death by poisoning of the heart muscle.

PROSTATIC ENLARGEMENT.

Long before the modern safety bicycle became so universally used, the possibility of enlargement of the prostate gland was discussed. The subject has been traversed *pro* and *con;* some authors claiming that there is no relation between bicycle riding and enlargement, and others affirming that there is a direct relation. In my opinion there is a relation; and, although there may be no immediate positive proof, there are many cases on record and in private practice that tend to point toward a relation. One will need but to inquire of different physicians to find that already there are cases of prostatic enlargement which can be attributed to no other cause. I have no doubt if statistics were available that prostatic trouble would be shown amongst cavalry soldiers of the war, or other horsemen who ride bareback. It is believed that if statistics were available that prostatic trouble could be shown to prevail amongst the tribes of Indians.

It is believed that the possibility of prostatic enlargement depends directly upon the kind of saddle used by bicyclists, and the kind of saddle that ought to be used will be discussed in another part of this paper.

Those who disclaim any relation take it for granted that saddles are used as they should be, but neglect to consider that they are not. The tipping of the horn of the saddle up would seem to me to have not so much bearing—it is the opposite that does the harm; it is the tipping of the horn of the saddle down; and when leaning forward the cyclist rests the weight of his body on the narrow horn, not on the perineum but directly on the rectum. If prostatic enlargement comes from wheeling, it comes under this condition.

URETHRITIS, AND OTHER TROUBLE ALONG THE URETHRAL TRACT.

Medical literature records many cases of urethritis of a nonspecific nature. This trouble would come from a pressure of a bad saddle along the urethra, most likely to occur at about the point where the urethra passes under the pubic prominence, but frequently occurs posterior to that part even back as far as the bulb. The posturethritis is believed to be due to tipping the horn of the saddle down so that the rider will slide forward and thus rest the most of his weight upon the horn of the saddle in the region of the perineum. When there is numbness in this region, the warning should be given attention, and the saddle should be exchanged for one that causes no such abnormal condition.

In the opinion of the writer the unnatural pressure of a bad saddle is capable of producing prostatic urethritis, stricture of the urethra, sterility, impotency, incontinence of urine, et cetera.

[TO BE CONTINUED.]

PROTONUCLEIN IN GENERAL PRACTICE.*

By G. W. SHERMAN, M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

The science of bacteriology teaches that pathogenic bacteria produce poisonous substances, ptomains and toxins, as a result of their multiplication and growth, and that these poisons usually cause the illness and perhaps the death of our patient. It has also been demonstrated that most disease germs can inhabit the body of a susceptible animal for but a comparatively short time, causing either death or the establishment of an immunity which results in the eradication of the germ. The immunity thus established will continue through life in many diseases while in others it will disappear by the lapse of time. What the exact nature of this immunizing process is, has not as yet been definitely established, but the antitoxin theory seems to be the most feasible one.

The manufacturers of protonuclein try to explain the efficiency of this preparation on the nuclein and leucocyte theory, but, if immunity is established by the production of nuclein and a resulting leucocytosis, then it is difficult to understand why it is that immediately after immunity against one variety of germ has been established, another variety may invade the body and cause disease. It is a matter of common experience to find a child taken sick with measles after a recovery from scarlet fever, or to have the streptococcus or staphylococcus invade a patient who has fairly established an immunity against scarlet fever, diphtheria or some other infectious disease, causing inflammations and abscesses which are often as serious as the original disease. It appears to me that if leucocytes are instrumental in establishing an immunity against the germs which caused the first disease in these cases, they would be equally as potent in preventing a second invasion. It appears that the germs or their toxins play an important part in the production of these immunizing substances. Anyone who has given diphtheria antitoxin a fair trial in the treatment of diphtheria, can readily appreciate the plausibility of the antitoxin theory of immunity.

What the composition or nature of these immunizing substances is, and how or by what organs of the body they are produced, is still a matter of conjecture, but it is not unreasonable to suppose that the lymphatic, thymus, thyroid, splenic and similar glands have much to do with their production. If these glands have anything to do with establishing immunity against pathogenic bacteria, then it is just as reasonable to suppose that extracts from these glands will assist in curing disease, as that pepsin derived from the peptic glands will assist in digestion; and it is for the purpose of directing attention to this line of therapeutics that I wish to give my experience with protonuclein.

According to descriptive literature pertaining to protonuclein this preparation is obtained by a process of simple extraction from the thyroid and thymus glands, the pineal gland and pituitary body, bone marrow, pancreas, spleen, liver, salivary glands, Brunner's glands, Lieberkuhn's follicles, peptic glands, and lymphatic structures derived from young animals. That the preparation is not a single compound, nuclein or protonuclein as its name implies, but a mixture of substances derived from the various structures from which it is obtained, is shown by the fact that it will digest albumens and starch, which the extracts from the peptic, salivary and pancreatic glands will account for. That thyroid extracts have a therapeutic value is quite well established, and that this preparation contains such extracts is apparent. If the extracts, derived from the other structures from which this preparation is made, have effects as varied as those obtained from peptic, salivary, pancreatic and thyroid extracts, it is apparent that in protonuclein we have decidedly a "shotgun" dose, and my experience with it has been that the shots which miss the mark inflict no injury. If gland extracts assist in establishing an immunity when given to persons afflicted with infectious disease, the fact will bear demonstration by practical experience at the bedside, and thinking that my experience with protonuclein may tend to promote clinical study, I will report a few cases, supplemented by some general statements, for your consideration.

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*Read before the Detroit Medical and Library Association.

My first practical experience with protonuclein was on myself. About two and a half years ago I was taken with a severe attack of acute catarrhal inflammation of the nasal mucous membrane which rapidly extended down the trachea into the bronchi. It began on a Friday morning with an almost incessant sneezing accompanied by blocking of the nose, fullness in the head and headache, followed later in the day by a thin, copious discharge from the nose, and an irritating cough. By 5 o'clock P. M. the same day my headache was severe, my limbs all ached, and on taking my temperature it registered 101°. I had had similar attacks before, none apparently quite so severe, which always run a course of from one to three weeks. I had tried quinine and other remedies without any appreciable benefit, and was a willing subject to try something new. I had a few samples of protonuclein and began to take them *ad libitum*, starting about 5 o'clock in the evening. By Saturday morning I felt some better and continued taking the preparation through all that day, still *ad libitum*, and by evening, twenty-four hours after I began its use, felt considerably improved. I continued taking more during Sunday, when my nose cleared up, and the headache, fever, cough, and soreness in my limbs disappeared. By Monday evening, after three days' treatment, I was practically well and attended a meeting of the Detroit Medical and Library Association. Since then I have always prescribed protonuclein in these acute catarrhal affections with the same happy result. Experience has taught me that the proper dose for such cases, in the adult, is from six to twelve grains repeated every two to three hours. The treatment should be continued with smaller doses for a few days after the disease has disappeared to prevent a relapse.

I have found protonuclein especially useful in the treatment of bronchopneumonia in infants and children. In these cases I usually give from two to four grains, according to age, repeated every two to three hours, and find that a recovery takes place in from three to five days. I have had remarkable success in treating pneumonia with this preparation and will briefly report three cases.

Case I.—My mother, aged seventy-two years, on April 8, 1897, suffered a severe chill about 9 o'clock in the evening. Two hours later when I first saw her she complained of pain in the right side; was coughing up bloody mucus, and was very uneasy. Her heart had been irregular for some years but now the pulse was 130 and her temperature 103°. Physical examination revealed pneumonia of the right lung. I prescribed two grains of phenacetin and six grains of protonuclein to be repeated every two hours. By 10 o'clock the next day her temperature was 99 3-5° and her pulse 108; the pain in her side was less and she felt much better. The phenacetin was discontinued and the protonuclein continued. By the third day her temperature was normal and she felt so well that in spite of my protests, she was determined to sit up. She coughed up rust-colored sputum for six or seven days but otherwise felt quite well. She has had no trouble with her lungs since.

Case II.—J. R., a female aged twenty years, had a chill at 6 o'clock in the morning, followed by fever and pain in the left side. I saw patient first at 8 o'clock P. M. next day, when her temperature was 102°, pulse 115, respiration short, with pain in the left side, and dullness on percussion over lower half of left lung. I prescribed six grains of protonuclein and two grains of phenacetin, and ordered the dose to be repeated every two hours. Next day at 4 o'clock P. M. her temperature was 101°, pulse 108, and she felt and looked better, but coughed up bloody mucus. The third day at 4 o'clock P. M. her temperature was 104°, pulse 120, and she felt worse, having more pain in her side, coughing up much bloody mucus, and feeling restless. On inquiry I found that she had only received her medicine every four hours instead of every two hours as I had directed. I now prescribed nine grains of protonuclein and two grains of phenacetin and ordered that the dose be repeated every two hours. The fourth day at 3 o'clock P. M. her temperature was 99 4-5°, pulse 96, and she felt better, coughed less and had but little pain. The protonuclein and phenacetin were continued. The fifth day at 4 o'clock P. M. her temperature was 98°, pulse 83, but little bloody mucus being expectorated, lungs clearing up, and she feels like leaving the bed. The protonuclein was continued and phenacetin discontinued. The sixth day her temperature and pulse were normal, appetite good, and patient convalescent. I prescribed nine grains of protonuclein, the dose to be repeated four times a day for a few days, after which no further medication was required.

Case III.—C. G., a male aged sixty-three years, had not felt well for several days, and was taken with a fever the day before I saw him. Patient complained of pain in his right side, and difficulty in breathing. His temperature was 102 3-5°, pulse 110, and the lower portion of his left lung was inflamed. I prescribed six grains of protonuclein and ordered that the dose be repeated every two hours. The next day there was hepatization of the lower half of the right lung, with a temperature of 102°, and a pulse of 108. The protonuclein was now increased to nine grains, repeated every two hours. The third day the temperature was 101° and the pulse 100. He felt better and on examination the lung was found to be clearing up. The protonuclein was continued. On the fourth day the temperature was 98°, the pulse 84, patient had enjoyed a night's rest, appetite returning, and lung much improved. The fifth day I found my patient dressed and sitting in a chair. He said he felt well, but I persuaded him to go back to bed fearing something might happen. I continued the protonuclein four times a day for a few days, when he made a complete recovery.

I have treated ten cases of typhoid fever with protonuclein, all of which made an unusually early recovery considering the severity of the early symptoms of some cases. I will briefly report a few cases:

Case I.—E. H., a female, aged twenty-two years, had been sick one day. When I first saw patient her temperature was 105° and her pulse was 120. She was restless, talked in her sleep, tongue dry, skin dry, face flushed. An examination of her lungs revealed no indications of pneumonia. Diagnosis doubtful. I prescribed three grains each of protonuclein and phenacetin, to be repeated every two hours. The next day the temperature was reduced to 103½°, pulse 115, but patient still restless, skin somewhat moist, tongue dry. On the third day her temperature was 104°, pulse 118, and she felt worse. The phenacetin and protonuclein were increased to four grains each, the dose repeated every two hours. On the fourth day her temperature was 103 2-5°, pulse 121, but she felt no better. The capillary circulation was not good. The phenacetin was discontinued and protonuclein, six grains and quinine two grains, repeated every three hours, were given. On the fifth day her temperature was 105°, pulse 123; bowels moved three times; other conditions not improved. Diagnosis, typhoid fever. The quinine was discontinued and the protonuclein continued, six grains every three hours. Cold packs were ordered every four hours when the temperature exceeded 102°. The cold packs were not used as often as directed but were applied three or four times a day. The temperature came down gradually and the pulse improved until the thirteenth day when the cold packs were discontinued, the temperature no longer rising above 102. From the sixth to the twelfth day there was considerable diarrhea, the bowels moving from three to seven times in twenty-four hours. For this condition terpentine emulsion and bismuth were given. On the morning of the sixteenth day the temperature was normal, pulse 91; the diarrhea had ceased, she looked bright and felt good. After this the temperature varied from the normal to 101 until the twenty-third day when it suddenly run up to 104°. The cold pack was applied but once; her temperature came down readily and the patient made a rapid recovery, being able to sit up before the end of the fourth week. The appetite returned about the eighteenth day and was good henceforth except when she had the high fever on the twenty-third day. She lost her hair, as typhoid patients usually do, after convalescence. This case started with unusual severity and promised to be a dangerous or prolonged one. Her unusual early recovery, in my opinion, can be attributed to nothing but the protonuclein which was continued until convalescence was completely established.

I was called to a family in which one of the city physicians had charge of two typhoid fever cases; one, aged twenty years, who had been sick three weeks, and another, aged six years, who was just convalescing after seven weeks' illness. By the time I made my second call a few days later, two other children of the family had taken sick. A boy seven years of age had not been feeling well for a few days, had no appetite, felt tired, tongue dry and coated, temperature 101°. I gave him four grains of protonuclein every three hours. He began to feel better in a few days, and by the eighth day had entirely recovered. I will leave the members to decide whether this was typhoid fever or not. The other case was a girl aged ten years. She had the usual symptoms of typhoid fever, with a temperature of 102 1-2°. Protonuclein, six grains, and phenacetin, two grains, repeated every three hours, were prescribed. The temperature continued to rise until the fifth day when it reached 104 1-5°, pulse 130. The phenacetin was discontinued and the cold pack substituted (which was poorly dispensed) and protonuclein increased to nine grains, repeated every two hours. The temperature from the fifth to the tenth day ranged between 102 1-2° and 104 1-2°, and considerable diarrhea set in which was controlled with bismuth and terpentine emulsion. From the tenth day the temperature gradually declined until the fifteenth day, when it became normal and remained so thereafter. It will be noticed that larger doses of protonuclein were used in this case than in the first case and a more decisive recovery ensued.

I have recently treated two other patients, one aged six years and the other twelve years, both girls, with large doses of protonuclein, in whom the fever run a course almost identical with the above case. The one unusual feature in these three cases was the early appearance of the appetite. About the twelfth or thirteenth day they began to ask for food, and in a few days the desire to take nourishment became so keen that it was difficult to refuse them something more substantial than milk. All these cases lost their hair during convalescence.

Protonuclein has a wonderful effect in maintaining the spirits and vitality of a patient during fever and has no depressing effect, while it reduces the temperature. This is particularly noticeable in typhoid cases. They do not lapse into that stupid condition which is so characteristic of this disease.

When protonuclein is taken in large does, say ten to fifteen grains repeated every two or three hour, it produces a deafness and ringing in the ears very similar to that produced by large doses of quinine. In such doses it may also cause an unsteadiness of the nerves and an increased frequency of the heart's action. If this condition is observed during the treatment of a disease it is well to withhold a few doses, when these symptoms will readily disappear without leaving any bad effects.

I have given protonuclein in scarlet fever with the effect of having the temperature decline and the swelling of the glands of the neck disappear, while the rash is coming out. I have given it with great success in puerperal fever, erysipelas, infected wounds, and in fact, consider it a valuable remedy in all infectious diseases.

Protonuclein also has quite marked tonic effects which are particularly noticeable when given in cases of general debility resulting from advanced age. As a tonic it should be given in from six to nine grain doses after meals and at bedtime. In neurasthenic cases it is of benefit, restoring a normal tone to the nervous system. I have given it in a few cases of whooping-cough with benefit. I have given it to a few tubercular cases but cannot say that it was followed by especial improvement. In cases wherein the temperature is high I usually prescribe small doses of phenacetin as a palliative remedy to assist in bringing down the temperature until the protonuclein has time to produce results. I consider protonuclein a very valuable addition to our remedies in combating disease, and feel that all who use it in large doses will be gratified with its results.

PURPURA HEMORRHAGICA FULMINANS.*

By V. H. VANDEVENTER, M. D., Ishpeming, Michigan.

[Published in The Physician and Surgeon exclusively.]

Purpura simplex, purpura rheumatica, and purpura hemorrhagica with bleeding from the mucous membranes are of comparatively frequent occurrence, and nearly every physician who does a general practice, especially among children, has had many chances to study these cases in all their different phases. Purpura fulminans on the other hand is rarely met and very few general practitioners have ever been called upon to prescribe for such an affection. In contrast to the benign nature of the other varieties of purpura, purpura fulminans is invariably fatal.

In view of the fact of its rarity and its fatal termination, I beg leave to occupy a few minutes of your time with the report of a case seen in the practice of Doctor G. G. Barnett.

W. M., male, aged fourteen months, a healthy, well developed child, had never been sick. His mother and father were both strong and healthy, and he had several healthy brothers and sisters. No evidence or history of hereditary disease obtainable. March 29, about 1:30 P. M., the mother noticed a dark spot in the region of each groin, which rapidly spread down the inner and anterior part of each thigh to about the middle of the knee-joint. The discoloration was of large area, covering at least one-third of the surface of each thigh. The outline was distinctly well marked. Its color was a deep purple, shading into black in the centre of each patch and at the most dependent parts. A half hour before this was noticed the child had been in a playful mood, showing no signs of discomfort in any respect. There were no gastric nor intestinal symptoms, no rheumatic pains, no edema, no abdominal tenderness, no hemorrhages from the mucous membranes. The pulse was of about the normal strength and frequency, and although the temperature was not taken, the surface of the skin and general appearance of the child did not indicate any elevation. In fact if it had not been for the extensive ecchymoses no one would have noticed but that the child was enjoying its normal good health.

On the following day, March 30, at 6 A. M., the child died, death occurring without the manifestation of any other symptom save the subcutaneous hemorrhage, and just sixteen and one-half hours after the ecchymoses were first noticed. Unfortunately no autopsy could be obtained.

This case is interesting not only from the infrequency of this affection and its rapid course, but also from the fact that there were no hemorrhages from the mucous membranes or other symptoms that commonly occur.

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*Read before the Upper Peninsula (Michigan) Medical Society.

But few cases of purpura fulminans have been reported, therefore any detailed report of a case is interesting. In **SAJOUS'** "Annual," 1891, **PRICARD** gives the case of a male infant five months of age who was taken with a chill, followed by high fever, pulse 130, temperature 102° Fahrenheit and apparent pain in the abdomen. The patient was pale, restless and anxious. He vomited and was constipated. A few hours later the child broke out with an eruption of well marked purpura, the lesions, varying from a split pea to a quarter dollar in size, covering his legs, with a less number on the abdomen and face. The right ear was purple. The child died a little later having only been ill thirteen hours.

ROTCH reports a case of an infant seven months of age, that had always been perfectly healthy. Patient was being nursed by its mother, who was a healthy, strong woman and had a number of other healthy children. The father was also a remarkably strong and healthy man. Large ecchymoses appeared upon the back and trunk and the infant rapidly failed in strength and died in twenty-four hours. There were no hemorrhages from the mucous membranes. This is the only case I have been able to find reported in which the subcutaneous hemorrhage was the only discernible symptom.

Luckily this hyperacute form of purpura is one of the rarest of rare diseases. **ROTCH**, who probably has as reliable statistics as any other pediatrist, and whose daily experience brings him in contact with a large number of diseases of children, states that, so far as he knows, only eight cases of purpura fulminans have been reported, and only one case in which there were no other symptoms of a severe constitutional disease.

From the cases reported the symptoms of this malignant form of purpura can be deducted as follows: The disease develops suddenly, with a chill, vomiting, marked prostration and high temperature, and cerebral symptoms are usually present. As a rule there are pains referrable to the abdomen and extremities. The ecchymoses may vary from the size of a pea to the involvement of a whole extremity. It is almost invariably fatal within twenty-four hours.

As regards its etiology and pathology we know absolutely nothing. Whether it is a distinct disease in itself, or whether the ecchymoses are merely a local manifestation of some severe constitutional disease is a problem that remains to be solved. Among the theories advanced as to its cause is that it is a disease of the blood, but of this we have absolutely no proof. Some claim that its cause ought to be sought in a diseased condition of the blood-vessels, but it is difficult to comprehend an extensive diseased condition of the blood-vessels in patients of such tender ages, and, granting such possibly could be the case, I am at a loss to understand how such sudden and severe symptoms could follow in otherwise apparently healthy subjects. Others claim that the ecchymoses are simply secondary symptoms of a lowered vitality, as in infantile atrophy, but from the mere fact of its occurring in well developed infants who have always been well nourished and healthy, we are compelled to pass this theory by with the mentioning. Still others have classed all forms of purpura among the acute infectious diseases of microbic origin, the severity representing different degrees of infection. Purpura fulminans surely has many characteristics in common with the general infectious diseases, but on account of its extreme rarity our advanced bacteriologists and pathologists have had few if any opportunities to make the necessary thorough study and experiments to demonstrate this theory.

The above are merely speculations. Of its real cause we are still in the dark, and for the time being at least will have to content ourselves with the recognition of such a condition when we meet it, and with the giving of a guarded prognosis. As regards its relation, if any, to the other forms of purpura, we know absolutely nothing.

TRANSACTIONS.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, MAY 10, 1898.

THE PRESIDENT, DAVID INGLIS, M. D., IN THE CHAIR.
REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR H. C. WYMAN read a paper entitled, "Two Cases of Joint Injury." (See page 443.)

DOCTOR ROBBINS: These are interesting cases but we are more apt to find those similar to the knee. I was astonished by a case wherein there was a complete separation of the quadriceps extensor in a fall one and a half years ago. The patient was laid up for some time and the patella was useless to the thigh. He has gradually been able to walk. It is not clear exactly what the difficulty was in the first case. I had a similar case in a large fleshy man; the shoulder was flattened, the head of bone was in front and not under the clavicle. Under chloroform I could almost get it into position but it would not stay. Yet it never fell out as far as before. I made two trials to reduce it. Another case wherein a man in falling through two joists saved himself by his arms. There was no dislocation but partial paralysis of one arm. There was temporary dislocation that produced temporary paralysis.

DOCTOR TIBBALS: I have been fortunate in having seen two cases of paralysis of the deltoid from injury to the circumflex nerve. They were taken for dislocations. After a fracture at the acromion there was union but with atrophy of the deltoid so that the humerus would drop down so as to resemble a downward dislocation. This lasted six months after which recovery ensued under the use of massage and electricity. Another case was a dislocation from atrophy of the deltoid which allowed the head of the humerus to drop drown. It came on some months after an injury. The dislocation disappeared under anesthesia. They were both primary injuries to the circumflex nerve.

DOCTOR WILSON: I have nothing of importance to add. While I have had some cases of dislocation of the shoulder, only one had trouble with the deltoid. It is hard to understand how there could be a double dislocation at the same time.

DOCTOR INGLIS: A dislocation can cause atrophy. Was it trouble with the nerve and then a dislocation? Trouble with the brachial plexus might have caused it, but why double? It is difficult to perceive what should cause a bilateral trouble like this.

DOCTOR WYMAN: The objection to this case having been a dislocation at the time is the ease of manipulation now. There is a peculiar clicking noise heard on motion. There is a possibility of there being trouble with the nerve, but a bilateral deformity, even in nerve trouble, is rare. There was no previous history of trouble with the shoulder or inflammatory disease. It is strange for a bilateral nerve trouble to come on after an injury. The other case is important from a medico-legal aspect. There was only a small part of the patella fractured, a very wide separation, four inches, yet he walks well. The walking is the result of art in the use of the thigh muscles, a use similar to the stilt-walker.

REPORTS OF CASES.

DOCTOR WYMAN reported an interesting case diagnosticated as appendicitis that turned out to be an extrauterine pregnancy when operated upon.

DOCTOR INGLIS reported the case of a saloon-keeper who two weeks ago had paralysis of the forearm with wrist drop while the upper-arm of the same side was in constant choreiform movements made worse by any excitement. The localization of the trouble and the probable lesion were the interesting points about the case.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 16, 1898.

THE PRESIDENT, ANDREW P. BIDDLE, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR R. J. KELLY read a paper entitled "Empyema." (See page 444.)

DOCTOR W. S. ANDERSON: I have listened with pleasure and profit to this instructive paper on empyema. It is well settled in medical minds that surgical treatment offers the only satisfactory relief in this condition. In simple serous effusions, aspiration is all that is usually necessary, but when the collection is purulent we cannot hope for good results without more thorough drainage. There is a question in my mind whether irrigation, as recommended in the paper, ought ever to be used. A series of statistics from German sources would seem to indicate that the best results followed free drainage without irrigation, either at the time of operation or at subsequent dressings. There is one condition when surgical interference is not, as a rule, indicated; that is, when empyema accompanies tuberculosis of the lungs. Experience has proved that many of these cases do not do well after the resection of the ribs and free drainage. If the purulent collection causes symptoms which demand interference, better results are obtained, many times, by aspiration, which may be repeated as often as indicated, rather than by the more radical operations.

DOCTOR McKEAN: The use of the antistreptococcic serum in the latter stages of lingering cases of scarlet fever and pneumonia, as a prophylactic measure appeals to me very strongly. The attention of the attending physician should be especially careful in this condition on account of the insidiousness with which the disease often develops.

DOCTOR WILSON: By the aid of a large-sized hypodermic needle, we can often make our diagnosis certain, and convince skeptical friends, with little pain to the patient.

DOCTOR COBB: The streptococcus is not the only germ whose presence causes empyema. Empyema may be caused by the pneumococcus, staphylococcus, EBERTH's bacillus, and the ameba. The streptococcus is often attenuated and comparatively harmless, and it is here that aspiration or puncture will sometimes cure a case without more severe operative procedures. The tuberculous empyema is far more serious and harder to deal with. Over fifty per cent. of all pleuritic effusions are due to tuberculosis, and it is to be presumed that many tuberculous pleurisies become infected with other germs, thus causing an empyema. In keeping patent an opening between the ribs for drainage purposes, a simple opening without removal of a rib, the simple device of DOCTOR HAL C. WYMAN is very effective. The doctor described this apparatus before the Academy of Medicine about six years ago. He takes two copper hooks and attaches to them rubber tubing. The hooks are inserted into each angle of the wound, and the tubing is placed around the body. The tension can be regulated at will. The best operation, I think, for thorough drainage and recovery with a good chest is the one practiced by DOCTOR DELAFIELD. An incision is made over the course of the selected rib, down through the periosteal covering, which is raised by blunt dissection, and the rib snipped off. The pleural cavity is then opened along this line. The upper pleural flap is turned up and stitched to the skin, and the lower section to the lower skin flap. This insures perfected drainage. I do not believe DOCTOR KELLY's irrigation with mild antiseptics did any good whatsoever. I do not believe in irrigation at all. I have yet to see a case of empyema recover from the disease by aspiration. DOCTOR KELLY has told of one of his cases that had been the rounds of other physicians without a diagnosis being made. That experience of his is unfortunately too common, and I urge the young men especially to strip all these cases and make a thorough examination of the chest as a matter of routine. Such unfortunate and criminal errors cannot happen to the careful physician. However, you must make these examinations often in serious lung and pleural cases, for the onset of an effusion is often very sudden. It is only a short time since I had a chest completely fill up on me in two days.

Doctor Kelly: I can see no harm in irrigation, and believe, as in other abscess cavities, it often does much good.

STATED MEETING, MAY 9, 1898.

The Vicepresident, EDWIN G. KNILL, M. D., in the Chair.

Reported, by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor G. W. Sherman read a paper entitled "Protonuclein in General Practice." (See page 454.)

Doctor Inglis: I had some talk with Doctor Sherman regarding his experience with this preparation and urged him to prepare a paper on the subject and bring it before the society because I think these personal experiences are very valuable. When we listen to the process of the manufacture of protonuclein as given by the doctor, it does not commend itself to one's judgment. We know that the extract from the thyroid gland has a very pronounced effect in lowering the heart's action. I look upon it as a remedy very useful in select cases but we must exercise care. In the constitution of this drug the doctor says the thyroid gland and pretty nearly every other gland is brought into requisition. If it were not for the results reported by the essayist I must confess that every prejudice of my therapeutic training would make me say that I did not want to employ it. If the remedy produces results such as the doctor describes it seems to me we ought to analyze protonuclein and instead of depending upon the mixed mass some differentiation ought to be made so that we could apply it in a more intelligent manner than we do at present. I have used it to some extent. It is given in large doses but is very expensive. My experience has led me to regard it as a muscular stimulant and tissue builder, as the doctor mentions.

Doctor Cobb: I would like to ask Doctor Sherman if he would give this remedy in the fever of the lying-in woman. If one is dealing with an infected uterus no protonuclein or substance of that kind would seem to me to be of value. The majority of physicians in general practice have some lying-in cases and after hearing Doctor Sherman's paper those present might be induced to give protonuclein in such cases. It seems to me that when puerperal sepsis presents itself after delivery the case belongs to the surgeon and should be treated from that standpoint.

Doctor McKean: I have had but very little experience with this remedy. Two years ago I had a case in which there was dullness of both lungs. The woman was losing flesh all the time. She had been given all sorts of tonics without any advantage. I had to give her something else so I tried protonuclein. I did not expect much from it. She began to gain flesh about a week after commencing its use. I gave six grains four times a day. She gained in weight as much as ten pounds in two months and her vitality was wonderfully improved. As regards the use of protonuclein in the case of an infected uterus. This condition certainly belongs to the surgeon but still I believe protonuclein would help the case.

Doctor Sherman: In all cases of catarrhal affections of the nasal mucous membrane or where the bronchi and lungs become involved protonuclein would have a very beneficial effect.

REPORTS OF CASES.

PRACTICE OF WILLIAM F. METCALF, M. D.

SUPRAPUBIC HYSTERECTOMY FOLLOWED BY DEATH FROM EMBOLISM.

THIS piece of cardiac muscle shows a large bony plate upon its surface. This shell covered nearly the entire surface of the heart. The pericardial cavity had been completely obliterated, the surfaces of its sac being fused. The patient must have had a purulent pericarditis. She died of embolism, on the twelfth day following suprapubic hysterectomy. She had been unusually well for several days. The nurse was in the room with her at the time. She complained of pain in her left leg, asked the nurse to rub it, and died instantly without showing other symptoms. Clot was found in the right auricle. The endocardium and valves were normal.

HYDROCELE AND DEGENERATED TESTICLE.

THIS hernia sac and degenerated testicle I removed last Wednesday from a man sixty-three years old. Although he had had double inguinal hernia for seven years he had never suffered from strangulation of either until last Tuesday. During the operation several quarts of ascitic fluid were emptied from the abdominal cavity. There being hydrocele, the cord being adherent to the hernia sac and the testicle degenerated, I removed all in one mass. The rings upon both sides were closed by the method which DOCTOR FERGUSON described, inverting the edges, the Saint John Leavens catgut being used. Both wounds are healing by first intention. There has been no elevation of temperature or increase of pulse rate.

APPENDICITIS.

THE young man from whom I removed this vermiform appendix presented some symptoms of interest. A year ago he was confined to bed for two months, during which time he was treated for inflammation of the bowels. Since he has had frequent chills followed by fever and severe pain in the abdomen. He has been wholly unable to work since the first attack. He was referred to me by DOCTOR H. E. SMITH, who made the diagnosis. When I first saw him, the morning of operation, his temperature was normal and pulse 50. The appendix, which contains a large fecal concretion, was imbedded in an inflammatory mass from which it was freed with difficulty. No abscess had formed, yet this patient had frequently repeated chills during the whole year. I left the wound open. The recovery was uneventful, there being no elevation of temperature.

VAGINAL HYSTERECTOMY.

THIS uterus, with its dozen fibroid tumors, besides the small foci, was removed through the vagina without the use of clamps. I found it necessary to ligate only one small vessel. The organ was split anteroposteriorly, and one by one the tumors were removed until the mas was so reduced in size as to permit its being brought through the passage, which was small, the patient never having been pregnant. Her recovery has been uneventful. This specimen is particularly interesting at this time, since HOWARD KELLY has recently made the statement that if the patient is in good condition and under thirty-seven years of age myomectomy should always be done instead of hysterectomy; while H. O. MARCY says, after careful examination of his own collection of uteri, and of those at Harvard, that so many centres of development were generally found, some of them being microscopic, that myomectomy is applicable in only a limited number of cases. From the numerous fibroid foci here presented myomectomy would probably have been unsatisfactory.

COLECYSTOTOMY FOR GALL-STONES.

MRS. L., aged thirty-nine years, gave a history of having had, each week during the last four years, from two to four attacks of pain, beginning suddenly in the stomach and accompanied by nausea and vomiting. The pain generally persisted until relieved by morphine. Olive oil and phosphate of soda were administered for long periods of time without apparent benefit. Last Thursday I performed colecystotomy, finding seventy-eight stones. She made a very satisfactory recovery.

DISCUSSION.

Doctor Longyear: The relation of the first case of the doctor's interests me very much, namely, that in which the first symptom of anything wrong being the excruciating pain in the left leg. It reminded me so vividly of a case I lost that I think it was quite remarkable that the symptom was the same. This was a case of abdominal hysterectomy performed for a diseased condition of the uterus and appendages. The patient did remarkably well and was in excellent condition on the eighth day. She awakened her nurse sometime after midnight, after sleeping well until 2 o'clock in the morning saying she had a terrible pain in her left leg. They called the house physician who tried to relieve the patient's suffering without avail and then sent for me. My first idea was that she was probably having a commencement of an attack of phlebitis, but on feeling of her pulse I found there was something different. The right radial impulse was entirely gone, no pulse in any of the arteries of the right arm, whereas in the left wrist the pulse was good. Hypodermics were administered but she became unconscious and we found afterward that the left temporal artery was not beating and that the right femoral artery had ceased to beat. An antemortem heart clot had formed and rushed on through the circulation to these different arteries and filled them up. The right side was also paralyzed. The patient died about thirty-six hours after the first manifestation. That symptoms of pain in the left leg, because of heart clot, is a very interesting phenomenon. The conditions were evidently the same in these two cases. Another interesting point is why we should have a heart clot form at that late date. We frequently have heart clots soon after an operation but we attribute them to the anesthetic.

PRACTICE OF F. B. TIBBALS, M. D.

PRIMARY SARCOMA OF LIVER.

Mrs. W., aged thirty years, was operated upon one week ago today at the Woman's Hospital by **Doctor Donald Maclean**. The patient was anemic, pale and poorly nourished and after examination a provisional diagnosis of tubercular peritonitis was made. After incision, however, the tubercular nodules thought to have been felt were not found, except a nodule attached to the left lobe of the liver, and the abdominal incision was extended upward to permit a more ready approach to it. We then found the nodule to be a part of the left lobe of the liver and removed it entire by a blunt dissection. There was but little hemorrhage which could be controlled so well by pressure that the abdomen was closed without drainage, and compression applied externally. The patient has not done very well since the operation, having a temperature of one or two degrees, irritable pulse, and obstinate vomiting to contend with, but is somewhat better today. **Doctor Maass** has made a pathological examination of the tumor and pronounces it sarcoma.

ENLARGED SPLEEN.

Mrs. B., aged twenty-two years. Had had for six or eight years an enormously enlarged spleen which caused pressure symptoms and probably some blood changes as she was anemic and in poor health though apparently well nourished. For the last year of her life she had irregular attacks of hemorrhage from the stomach, bowels and kidneys. In November, 1895, she underwent a major abdominal operation—removal of uterus and adnexa—for a condition in no way related to the enlarged spleen and made a gratifying recovery. Four weeks after the operation the urine became loaded with blood, and albumin granules and hyaline casts were present. These symptoms soon subsided and for six weeks the patient's condition was excellent, then hemor rhage began from the stomach which soon became uncontrollable and death ensued on March 2, 1897. During the last three months of her life, as well as frequently on previous occasions, the advisability of removing the enlarged spleen was debated but, inasmuch as blood analysis showed only slight changes in the blood, the decision was fortunately adverse to operation as the postmortem made by myself showed. The point of particular interest was the specimen which I now show you, that is, calcareous obstruction of the vena portæ amounting almost if not quite to occlusion. This obstruction was the cause of the manifold hemorrhages which ended in death, as well as the cause of the splenic enlargement. The spleen was but little larger than normal when seen postmortem and so bound down by adhesions that its removal during the life of the patient would have been impossible.

DISCUSSION.

Doctor Maass: I was very glad to have a chance to examine this very interesting specimen. I must say that I never have seen a primary malignant tumor of the liver until I had seen this one. The liver as we all know is the usual place for metastasis, and when we find a tumor in the liver we should always be very suspicious whether it is a primary one or not. From the microscopical examination I have made in this case I feel satisfied that it is a primary tumor of the liver. The doctor reports that the patient was anemic and poorly nourished. It would be very interesting to hear something about the rest of the liver. I have my suspicions that the whole liver is in the same condition as the section exhibited this evening.

Doctor Longyear: In regard to the case of malignant tumor of the liver, Doctor Maass has covered the ground pretty thoroughly on the scientific side of the question. The other specimen, that of calcareous degeneration of the vena portæ, it shows us that we cannot always tell by simply diagnosing a tumor the necessity of an operation. I believe this is the case reported by Doctor Maclean at the State Medical Society, is it not?

Doctor Anderson: Was there any evidence of degeneration of the other vessels around the liver or aorta?

Doctor Tibbals: Answering Doctor Longyear's question I would say that this is the case which was reported by Doctor Maclean as stated. In answer to Doctor Anderson I would say that there was no evidence of calcareous degeneration of any of the neighboring vessels.

PRACTICE OF HAL C. WYMAN, M. D.

A WOUND OF THE PERICARDIUM AND PLEURA.—TREATED BY SUTURE.

On the night of January 26, 1898, I received a telegram asking me to visit one of the interior towns of the state and treat a case of wound of the pericardium. On arriving at the bedside of the patient I found a very strong, robust man aged twenty-eight years and six feet two inches in height, looking very pale and lying obliquely across the bed, on his back, breathing fifty-six times per minute with pulse of 140 beats per minute. His clothing had not been removed. His chest was in part covered with a sheet, which I removed, revealing a large wound in the left side of the thorax through which the heart could be seen beating violently. With each respiratory movement the heart projected through the wound and air, making a rough blowing noise, rushed into the pleural cavity. The fifth rib was in part gone from the costal cartilage backward a distance of about two inches, and about one and one-half inches of the costal cartilage was gone. Beneath where the rib and cartilage should have been was a wound more than four inches in length dividing the pericardium and pleura, and through it the apex of the heart protruded. Doctor A. C. Wood had the case in charge and had devoted his resources mainly to sustaining the patient and protecting the wounded tissue from infection. At the time I made the preceding observations fourteen hours had elapsed since the injury. It was caused by the bursting of a circular saw in a sawmill. The man was running the saw. The left pleural cavity was open and a ragged wound could be seen and felt in the lower lobe of the left lung. A large quantity of blood had been lost but there was no bleeding now. We hastened to close the wounds, stitching up the pericardium first. Placing my left index finger on the heart I pushed that organ backward and downward until I could catch the cut margins of the pericardium with forceps and draw them forward and in contact so I could stitch them together with continued catgut suture. In thrusting the needle through the margins of the pericardium I used my left index finger as a guide to prevent the needle from piercing the walls of the heart. After the pericardium was closed we next sutured the pleura, and after doing that we proceeded to close the rent in the chest wall using catgut for the purpose. Care was observed to bring all lacerated and cut ends of intercostal and thoracic muscles accurately together, and to hermetically close the thoracic fasciæ and integument with sutures. Almost directly the chest wall was closed and the heart and lung were excluded from the circumambient air, the respiration fell to thirty-four inspirations per minute. The heart also beat more slowly and it was marked by all observers that the patient appeared better. No anesthetic was used as it was not deemed wise to jeapordize the greatly enfeebled respiratory and circulatory forces. The man appreciated fully the gravity of his wound and endured the pain incident to the operation with scarcely a murmur. An aseptic dressing of gauze and cotton was applied to the wound and secured by a broad bandage passed around the chest. Some doses of morphine and whiskey had been given him by Doctor Wood before my arrival; further than this the patient relied wholly upon his own fortitude in enduring the pain. Doctor Wood and I decided to treat the wounds on the principle which commonly serves best in case of serious wounds elsewhere, namely, by vigorous elimination by cathartics. Sulphate of magnesia in saturated solution in tablespoonful doses was commenced directly the operation was completed and the patient made comfortable in bed. The dose was repeated every two hours until a good free movement of the bowels was provoked, then it was continued less frequently. A letter from Doctor Wood ten days after my visit informs me that the patient's bowels are moving sundry times every twenty-four hours, that he has had no temperature above 101°, that pulse and respiration are quite normal and that his appetite and sleep are good.

CORRESPONDENCE.

HYGIENIC CONDITIONS ON THE YOSEMITE.

Camp Wikoff, New York, September 28, 1898.

Frank B. Walker, M. D.: *Dear Doctor*—The letter which you mailed last July, suggesting an account of the medical service on board the Naval Steam Ship Yosemite for publication in The Physician and Surgeon, reached me here yesterday. The letter must have had an interesting trip about Cuban waters, judging from the time it has been in transit.

The most interesting point with us in a medical way was the manner in which disease disappeared under the influence of good hygienic surroundings. Our ship's company consisted of three hundred and some odd persons. Our time of service extended from the latter part of April until the latter part of August. We served as a body on a crowded receiving ship; at a dry-dock on our own ship, crowded with workmen; on the blockades of Havana, Santiago and Porto Rico and on various side cruises besides. At San Juan, Porto Rico, we were under fire between four and five hours. Spanish gunnery here was of the kind found elsewhere and our ship was not struck.

The "Yosemite" before conversion into an auxiliary cruiser was the Morgan line steamer "El Sud." It had been in the freight trade between New Orleans and New York. The cargoes carried had contained much sugar, molasses, tar, et cetera. These had been scattered over the decks and worked into the wood so that in walking over them one's heel sank in much as it does in asphalt pavement on a very hot day. Almost as soon as we had gone on board an endemic of influenza appeared and raged fiercely. Some two weeks later German measles appeared. Some thirty or forty cases of this disease soon developed—most of them fortunately being very mild.

As soon as workmen were got out of the way and the ship had been sufficiently put in order to permit of such action, a systematic effort was made to render the whole ship clean. We had been on board some two weeks before this could be undertaken in a satisfactory manner. After all exposed decks had been washed thoroughly with water, the lower decks, where the molasses and sugar abounded, were scrubbed to the wood with concentrated lye. Then one coat of paint and several of shellac were applied, which had the effect of making these decks as hard and aseptic as new ice. Directly this was done the influenza began to abate and in a few days only it had disappeared entirely. The German measles also began to appear less frequent, but was longer in leaving entirely, owing probably to its quite long stage of development. This layer of sugar and molasses seemed theoretically a perfect culture medium for any disease germ once introduced, and the wonderfully short time our diseases continued after it was removed seemed to prove conclusively that the theory was a correct one. After this these decks were kept clean with brooms and dry cloths and when dingy were covered with a fresh coat of shellac. Probably a dozen coats were applied during a period of three months.

Next the bilges were thoroughly cleansed. The water standing in the bottom of the ship together with oil and other refuse had become foul. This was pumped or dipped out, fresh water allowed to run in and remain over night and taken out in the morning and then crude carbolic acid in solution of one to three hundred thrown over the surface of the plates where the bilge water had been. After the ship had been once got in a clean condition, by these various procedures, it was kept so with very little trouble.

The general health of the crew—after cleanliness had been established—was as nearly perfect as possible. One other influence to this end and a most important one must be mentioned. The only drinking water on board was freshly distilled each day. On this account many disturbances of digestion doubtless were avoided. In my own opinion, too, the absence of ice also had a good effect.

I write these lines at Camp Wikoff, where are gathered together many fighters for their country, but who have been much less fortunate in avoiding disease than were their comrades afloat. A study of the health conditions of the "Yosemite" might show future campaigners on land the direction in which to bend their energies in order to escape disease.

Very truly yours, D. L. Parker, M. D.

EDITORIAL ARTICLES.

OUR OVERCROWDED PROFESSION.

That the medical profession suffers from overcrowding, quackery, indiscriminate charity and many other social evils is a patent fact, and that the public suffers equally or more is as absolutely true though not generally believed and admitted. The attempt to abolish or at least regulate these evils by the enactment of laws is a tacit avowal of their existence and baneful nature. The futility of laws to control is shown by their frequent repeal. Illinois, again the battle field of another medical crusade, is confronted by some of the same evils from which she suffered more than a score of years ago and supposed she was delivered in 1877. Legislation is at best only a temporary expedient. It gives only a brief respite. Sooner or later it brings disappointment. To be of permanent value changes must be fundamental, The pathologic tendency of the ultimate cause must be reversed into physiologic channels, a task by no means easy but nevertheless expedient, if possible.

In explanation of the diseases which now afflict not only the medical but also the other learned professions and trades, DOCTOR LEARTUS CONNOR* assumes "the existence of a national sentiment honoring the intellectual and dishonoring the physical trades," and declares that "Unless this sentiment can be changed, so that manual labor will be regarded as equally honorable and desirable to those with natural aptitude therefor, the medical profession will always be crowded with some good material and a large contingent of indifferent, and a still larger of bad." Fortunately the doctor has offered a remedy, namely, the training of the body *with* the mind, combining a physical education with the mental and the readjustment of the free schools "to the conditions existing anterior to large towns and cities." He proposes that the expenditure of public money shall be limited to the lowest six grades, those in which three-fourths of the children receive all their education, that ample provision shall be made for their physical instruction by a multiplication of teachers and abundant facilities, and that higher education shall be attained only by individual effort and personal merit. This readjustment, he assumes, will result in a symmetrical education, "a trained mind in a trained body," a state favoring an unbiased and wiser choice of vocation, a more natural division of labor and incidentally a wholesome respect for physical as well as mental labor.

All the results of such a revolution could not be foreseen, but it is evident that removing the handicap placed upon the manual trades by the free schools would react favorably upon the former, check the overwhelming rush for the overcrowded professions and insure to the masses a fairer distribution and benefit of public school money.

ANNOTATIONS.

THE CORSET: A USEFUL GARMENT.

THE inevitable corset has been the subject of so much abuse, both deserved and exaggerated, that to see it mentioned in other than disparaging terms is a decided relief. The claims of distorting and even painful effects of its use have been so magnified that few have had the courage to advocate whatever redeeming qualities it might possess. The controversy has aimed to eliminate the abuses by abolishing the corset in toto rather than by seeking to improve it. The result is striking. Makers have increased and wearers multiplied. That the mandates of fashion supply devotees we must admit, but it is also a fact that fashion itself depends fundamentally upon physiological principles. The principles underlying the corset are constantly applied in the prophylactic and curative measures of medical practice so that benefit must inevitably follow its proper use. In commenting upon the vertical and unnatural attitude of man, the encumbrance of the dorsal spine by the upper extremities, the herniæ and spinal deformities that result from the erect posture, DOCTOR T. H. MANLEY, in *The Virginia Medical Semi-Monthly*, makes this plain statement: "It has long been my conviction that there is no garment in the female apparel more necessary and comfortable than a properly adjusted corset. * * * Along with imparting grace and symmetry to the figure, it likewise is a support and protection. * * * It takes the superincumbent off the middorsal spine and conveys it to the broad, strong crista ilii, and also imparts a sense of comfort and security." To meet his requirements of an ideal corset it must be light in weight, strong and durable, so constructed as to be easily cleaned and so adjusted as to support the upper dorsal spine and related parts from the broad iliac crests. Tight lacing may be harmful but the assumption that this is synonymous with corset wearing is groundless and yet responsible for the denunciations it has innocently received. It is evident that in dress as in other sanitary affairs much more may be accomplished by judicious advice than by wholesale condemnation.

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*"Bulletin of the American Academy of Medicine," Volume III, Number IX.

TRANSPORTATION OF DEAD BODIES.

ONE phase of sanitation which has recently been overlooked to some extent in some portions of the country is concerned with the transportation of the bodies of soldiers dead of typhoid fever. On account of the emergencies the provisions requiring hermetically sealed coffins and death certificates have been neglected even by some of the health authorities. The laws of Michigan forbid bringing any corpse dead of any dangerous communicable disease "into any township, city or village in Michigan, without the special permit of the board of health or the health officer of said township, city or village, and then only under the supervision of the health officer of said township, city or village." In response to inquiries SECRETARY BAKER has replied: "Typhoid fever has been declared by the Michigan Stated Board to be a dangerous communicable disease. The proper course to pursue is to get the permit from the local health officer, and notify him of the arrival of the body. It is then his duty, through such action as may be required, to guard the interests of the living."

TUBERCULIN AND THE CONGRESS OF TUBERCULOSIS.

NOTWITHSTANDING the disappointment, condemnation and prejudice which followed the early indiscriminate use of KOCH'S tuberculin, after its announcement eight years ago, a few scientific persons have continued to cautiously use it in selected cases. Contradictory reports have not been infrequent. Indeed a degree of encouragement has seemed to be attached to its use by certain individuals. At the Congress of Tuberculosis, recently held in Paris, a diversity of opinions were expressed as to the value of this remedy, which have been significantly summarized by BOARDMAN REED (*International Medical Magazine*) as follows: "The reports from the clinical side were also contradictory, but it is noteworthy that the adverse reports were in each instance based on a very small number of cases from men who clearly had had only a slight experience in the method, while the favorable ones were based on trials extending over long periods of time, in one case eighteen months, and in another two years, and covering a much larger number of cases. * * * The men who have reported the largest percentage of cures with tuberculin are experts in the treatment of tuberculosis and several of them practice in places exceptionally well adapted to the arrest and ultimate cure of the disease. They have reinforced the specific treatment not only by the help of climate, but also by the most painstaking care as to diet, exercise, clothing, oxygenation and all other possible hygienic aids. Nor can it be objected that these other potent aids to cure and not the tuberculin should be given the whole credit. The physicians now referred to, being experienced and expert in the treatment of such cases, should be believed when they insist that under the same conditions otherwise their tubercular cases have done decidedly better with tuberculin added to their treatment."

THE NEW BRITISH VACCINATION ACT.

THE new vaccination act with its "conscience clause," which LORD LISTER has characterized as a gigantic experiment, has provoked disappointment and presented new difficulties without fully satisfying either party. One extreme desires nothing but the abolition of the act while the other is equally disgusted with the present state of the bill. The value of vaccination has become so generally recognized and its benefits so manifest that the admission of conscience in the matter, by that government, under the existing circumstances, is little short of the ridiculous. Another indication of the aborted measure already pointed out is the failure to define what is meant by the term "conscientious," which will naturally present difficulties to each administrator and in every case.

CONTEMPORARY.

THE AMERICAN MEDICAL PRESS.

[THE AMERICAN GYNECOLOGICAL AND OBSTETRICAL JOURNAL.]

THE average busy practitioner—and even he who is not so blessed—rarely gives a thought to the medical press of this country, to what it is, to what it costs in effort and money, to the immense power for good which lies latent in it and for the progress or deterioration of which he alone is directly responsible. If he thinks of it at all, he soon dismisses it as a necessity—agreeable or otherwise as he happens to be fond of his profession or is merely a money-grabber—for which he pays or expects to pay in the very distant future.

A short dissertation on this subject, therefore, will be a very profitable employment of time to most of our esteemed readers and will be the medium of information upon a topic than which none can be of greater interest, because this touches most closely the physician himself in his reputation and in his capacity and the opportunity for earning his daily bread. For the medical press is what its subscribers make it. It is a lever of mighty power—"a lever to move the world"—and its significance to the profession is whether the handle of this lever is controlled by the profession or whether the profession rests upon the short end and the long end is held in the hands of those who know its value and have so long exploited it.

The value of the press to us—and who will deny its potential might?—lies in its control, its universal and absolute control, by ourselves, by medical men who are bound by professional obligations, by that common interest which binds us all, that remnant of medical ethical feeling which, notwithstanding the stupendous and blind selfishness of the individual practitioner, is still powerful enough to define our conduct, each to all and all to each, within certain fixed limits. Encourage with your support such a press, make it an accomplished fact by subscribing and *promptly paying your subscriptions*, and you need not doubt that the editors and medical proprietors will unite and act together for the common good. Medical editors know very well that a powerful press must be a united press and must equally represent a powerful and united body of men, that is, the profession; for if we editors had universal influence and our written words the convincing force of a CICERO and a DEMOSTHENES, of what avail if the profession which we represented and for which we spoke remained disrupted, weak and incapable of self-government and the use of power?

The profession and its press are indissolubly united for good or evil. Reform your press and it will in turn reform and unite you. Support and encourage medical proprietorship in your journalism—not by platonic good wishes but by your *exclusive* patronage and by your money and you will find the lever of a mighty press for use at your hand. Encourage, by your selfish indifference to everything which may benefit others as well as your individual self, journalistic proprietorship by lay publishers and your medical press will continue, as it has hitherto done, to *use you.*

When this journal first entered the field, something more than six years ago, it was almost the only first-class journal owned and edited by a professional man in this country; today there are probably a dozen or more in this category. We doubt not that at least a majority of these medical proprietors and editors are actuated by singleness of purpose to work for the good of the profession, to create a great press and that they are sustained by the hope that the profession will one day recognize practically the honesty of their purpose and its self-sacrifice. Do you fancy that all these journals are supported by the profession? Does that fatuous thought, perchance, cross the mind of the subscriber who throws his bill aside to be paid in a year or two? Does that contributor also believe this who sends his article to be published by some lay medical journal rather than by one owned by a medical man, not because the former is better or has a larger circulation (thank God, that excuse will not hold today) but because he thinks he can get a longer subscription credit and better terms for new medical books?

Remember this: If you wish this movement toward bringing the medical press under medical control to succeed, *you must not expect credit; you must pay your subscriptions in advance.* You must make up your mind to that sacrifice for the sake of the great good to be obtained. Medical proprietors have not large capital behind them; *you* must supply the capital to work with. After all, you are only expected to pay for what you receive and we say, without a moment's hesitation, in the case of every journal for which you may have subsbribed, you get your money's worth and more. If, on the other hand, you have no sympathy with the struggles of these medical men to give you a medical press which you yourselves shall own and whose policy shall always be dictated by your interests, if you prefer your press to remain always merely a grab-bag from which you will have the privilege, as you wish, to draw out a more or less interested original article or society proceeding, you can accomplish this end without exertion. It is only necessary to neglect to pay your subscription. You will force, in this gentle and easy manner, every medical proprietor out of the journalistic field and you will hand over the medical press absolutely to the great lay publishers who do not expect you to support their journals, which are not published in your interests but as advertising mediums for their other products.

It is this uneven fight which we editors are fighting, and the question at stake is whether the profession, to which we belong and in whose interests we work, mean to aid us or to turn aside. After all, it is for you, the profession, not for us; for we venture to say, there is not one medical proprietor in this country who could not earn more at his profession, with half the labor expended in journalism, than he could ever expect from the most generous support his subscribers could give him. The decision and the responsibility lie with you. It is easy (for the individual sacrifice is not great) to create a great American Medical Press under medical control. It is easier still to place it back again, where for so many years it remained—on a plane of mediocrity and in the hands of lay publishers.

MEDICAL NEWS.

A LEGAL DECISION AFFECTING PHYSICIANS.

A LEGAL decision of unusual interest to the medical profession throughout the world has lately been handed down by the United States Supreme Court. In 1878 Doctor Benjamin W. Hawken, a legally qualified practitioner of the State of New York, was convicted of a felony, having performed a criminal abortion, and was sentenced to imprisonment for ten years. At the expiration of his term of servitude he attempted to resume practice, with the result that the Medical Society of the County of New York brought suit against him for violation of a state law. His counsel argued that a construction of the law making it illegal to practice medicine after conviction of a felony is unjust and unconstitutional, inasmuch as it in effect adds a new punishment for the crime. The people contended, however, that the state has the right to exact good moral character as one of the qualifications for the practice of medicine. The first trial resulted in conviction which, in a final appeal to the United States Supreme Court, was upheld. This decision will, therefore, stand as a law for all future time, and will debar any man or woman convicted of a felony from practicing medicine in this country.

HEALTH REPORTS FOR JULY AND AUGUST.

SECRETARY HENRY B. BAKER, of the Michigan State Board of Health, reports the following diseases, arranged in order of greatest prevalence, during July: Rheumatism, diarrhea, neuralgia, bronchitis, tonsillitis, pulmonary consumption, intermittent fever, influenza, cholera morbus, remittent fever, dysentery, inflammation of kidney, cholera infantum, inflammation of bowels, pleuritis, measles, erysipelas, typhoid fever (enteric), typhoid fever (typho-malarial), whooping-cough, pneumonia, scarlet fever, cerebro-spinal meningitis, inflammation of brain, diphtheria, puerperal fever, membranous croup and small-pox. During this month, compared with the preceding month, dysentery, cholera infantum, cholera morbus, diarrhea, inflammation of bowels and intermittent fever increased, and influenza, pleuritis and measles decreased in area of prevalence. * * * * For the month of July, 1898, compared with the average for July in the twelve years 1886–1897, whooping-cough, erysipelas, cholera morbus, consumption, intermittent fever, remittent fever, cholera infantum and neuralgia were less prevalent. Including reports by regular observers and others, consumption was reported present in Michigan in the month of July, 1898, at one hundred and eighty places; measles at seventy-three places; typhoid fever at forty-five places; scarlet fever at forty-four places; diphtheria at forty places; whooping-cough at thirty-nine places and small-pox at one place. Reports from all sources show consumption reported at two places more;

measles at thirty-four places less; typhoid fever at eight places more; scarlet fever at the same number of places; diphtheria at seven places less; whooping-cough at ten places less, and small-pox at one place more in the month of July, 1898, than in the preceding month.

* * *

THE diseases causing the most sickness in Michigan during August, 1898, were, in the order of greatest prevalence, as follows: Diarrhea, rheumatism, neuralgia, bronchitis, cholera morbus, dysentery, intermittent fever, tonsillitis, cholera infantum, consumption (pulmonary), inflammation of kidney, influenza, remittent fever, inflammation of bowels, typhoid fever (enteric), typhoid fever (typho-malarial), erysipelas, pleuritis, whooping-cough, measles, puerperal fever, pneumonia, scarlet fever, cerebro-spinal meningitis, inflammation of brain, diphtheria, membranous croup and small-pox. During this month, compared with the preceding month, dysentery, cholera morbus, cholera infantum, typhoid fever, diarrhoea and inflammation of kidney increased in area of prevalence. Compared with the same period during the years 1886–1897 consumption, erysipelas, remittent fever, intermittent fever and cholera infantum were less prevalent. According to the report of the State Board of Health, "consumption was reported present in Michigan in the month of August, 1898, at one hundred and ninety places; typhoid fever at one hundred and twenty-five places; measles at forty-five places; scarlet fever at thirty-nine places; diphtheria at thirty-nine places; whooping-cough at thirty-two places, and small-pox at one place. Reports from all sources show consumption reported at ten places more; typhoid fever at eighty places more; measles at twenty-eight places less; scarlet fever at five places less; diphtheria at one place less, and whooping-cough at three places more in the month of August, 1898, than in the preceding month. Small-pox was reported present at the same number of places."

MORTALITY IN MICHIGAN DURING JULY.

FROM the *Michigan Monthly Bulletin of Vital Statistics* the information is gleaned that the total number of deaths reported in Michigan during July, 1898, was 2,217, an increase of 162 over the preceding month. The death rate was 11.3 per 1,000 reporting population, as compared with a rate of 11.0 for June. The slight increase in mortality is due to seasonal conditions, which affect the city rates especially, and is probably less marked than in the average year. On the whole July was a very favorable month. There were 500 deaths of children under one year of age, as compared with 339 in June, and 157 deaths of children aged from one to four years, as compared with 132 in the preceding month. Thus the characteristic feature of the month is seen to be the increasing mortality of infants and children, premonitory of the excessive death rates of this portion of the population in August and September. Now is the time when parents, physicians and health officers should take unusual pains to prevent the great source of infant mortality, "cholera infantum" and infantile enteritis. Only 162 deaths occurred from consumption. This is the smallest number reported for this disease since the beginning of registration, and except for the month of October, 1897, is the first marked fall from the average of about 200 deaths per month. Typhoid fever caused twenty-one deaths, which was decidedly below the average. Diphtheria and croup caused nineteen deaths; scarlet fever, one; measles, eleven; whooping-cough, forty; pneumonia, seventy-seven; diarrheal diseases of children, 267; and cerebro-spinal meningitis, thirty-one. Whooping-cough and diarrheal diseases of children showed the largest amount of increase for the month.

THE SANITARIUM ANNIVERSARY CELEBRATION.

THE thirty-second anniversary of the establishment of the Battle Creek Sanitarium was celebrated Monday and Tuesday, September 5 and 6, under the superintendency of Doctor J. H. Kellogg. The occasion brought together a large gathering of lay and professional friends of the institution from Michigan and other sections of the country, many former patients being among the number. The exercises were inaugurated at 10 o'clock Monday morning on the beautiful lawn in front of the main building, and during the forenoon partook of the nature of addresses and reminiscences, interspersed with music and greetings of invited guests. Among the numerous speakers were Ferdinand Schumacher, the oatmeal king, Honorable E. C. Nichols, Honorable G. W. Ross, Minister of Education of Canada, Doctor George W. Green, Honorable J. N. Bishop, of Washington city, and other notables, together with the Superintendent and his colleagues of the Sanitarium management, Doctors Paulson and Winegar and Chaplain McCoy. Letters of congratulation were received from Governor Pingree, Professor Winternitz, of the faculty of the medical department of the Royal University of Vienna, Honorable Clement Smith, Governor McCorkle, of West Virginia, Honorable Fred A. Maynard, Attorney General, and upward of five hundred other friends of the institution in various parts of the world. At 2 o'clock the visitors repaired to the spacious dining hall and indulged in a thoroughly hygienic repast of the latest conception, which was not only amply satisfactory in variety but pleasing to the palate and comforting to the stomach. After dinner a sight-seeing tour of the buildings and grounds was begun, the range including the Haskell Orphans' Home, the Sanitarium Hospital, and the several departments of the Sanitas Nut and Health Food Companies. The remainder of the afternoon was consumed in enjoying the generous hospitality extended at Doctor and Mrs. Kellogg's private home and attending a trolley-car jaunt to Goguac lake.

* * *

A delightful feature of the event was the reception held in the gymnasium Monday evening and attended by several thousand citizens and visitors. The display of gaily decorated booths in this large hall conveyed the impression of entering a metropolitan bazaar, but in reality the novel exhibit was a school of health, representative of various treatments in vogue at this institution, together with the numerous health foods and sanitary publications emanating therefrom. In this connection it is worthy of note that the company publishes eight periodicals devoted to preventive medicine in different parts of the world, the aggregate circulation of which is eighty thousand copies monthly. Two are issued in the United States, one in Mexico, one in Africa, one in Switzerland, one in Scandinavia, one in Germany, and one in Australia. Tuesday at 10 o'clock the visiting physicians were treated to a surgical clinic conducted by Doctor Kellogg in the Sanitarium Hospital, where numerous operations were performed with dexterity and alacrity during a session which lasted over six consecutive hours. By the way, the profession may be interested in knowing that surgical clinics are held in this hospital amphitheatre every Wednesday and that visiting members are welcome to witness the examinations and operations.

* * *

A very fair idea of the magnitude this great philanthropic enterprise has attained in thirty-two years may be formed by considering that from a small dwelling house, one or two physicians, a few amateur nurses, whose duties ranged from general cook to janitor, and a very skeptical set of patients, the embryo Battle Creek Sanitarium has gradually grown until now it comprises one enormous building, around which center fourteen other large buildings and about seventy-five cottages, a large corps of skilled physicians, a family of about one thousand including nurses and other employes, and a large constitu ency of patients ranging from three hundred to five hundred the year round. In addition to this creditable showing nineteen branch sanitaria have been established in this and ten other countries, and medical missionaries have been educated and sent into every country on the globe; for, although it may seem incredible, a decidedly unique feature in the basis of all these institutions is the principle of self-supporting philanthropy. The physicians and nurses have dedicated their lives to missionary work, and salaries are only nominal. Members of the profession who attended this celebration were well repaid for the respite from monotonous labor by a sojourn of pleasure and profit at an abode where hygienic principles reign supreme and genuine hospitality is unbounded.

MINOR INTELLIGENCE.

A HOSPITAL CAR to cost $10,000 is being built for the Missouri, Kansas and Texas railway. It will be provided with a drug store and an operating room, and will make regular trips over the system.

DOCTOR W. D. CARMICHAEL, recectly in charge of the Marine Hospital at Cleveland has been ordered to proceed to Honolulu and assume control of the Marine Hospital service of the Hawaiian Islands.

THE Ernest Hart Scholarship for Preventive Medicine is the title of a memorial which the council of the British Medical Association has decided to found in honor of the late Doctor Ernest Hart. The scholarship will be tenable for two years and will possess the value of $1,000.

"SURGEONS GENERAL of the United States Navy" is the title of a unique publication recently issued by The Maltine Company, of New York City. It will shortly be followed by another of like nature. It is an interesting and historical record not hitherto obtainable in convenient form.

THE White Cross Mission is the appellation adopted by an organization of nurses established in Oregon. Its purpose is the care of sick and wounded soldiers, and the good samaritans have petitioned the war department for permission to inaugurate their work in our Pacific possessions.

THE Tri-State Medical Society of Alabama, Georgia and Tennessee will convene in tenth annual meeting at Birmingham, Alabama, Tuesday, October 25, under the presidency of Doctor J. A. Goggans, and continues its sessions three days. The secretary is Doctor Frank Trester Smith, of Chattanooga.

DOCTOR D. A. LINK, recently of Cassopolis, Michigan, is now practicing in Dawson City, Alaska. There seems to be an alarming laxity of the registration laws of the Northwest Territory. It is rumored that notwithstanding there are only eight or ten practitioners in the Yukon Valley who have complied with the legal requirement there are fully two hundred plying the healing art in Dawson City without a license.

DOCTOR ANITA NEWCOMB–MCGEE, who has examined and selected several hundred nurses since the inception of the Spanish-American war, recently received the appointment of acting assistant surgeon in the United States army, with the rank and pay of a second lieutenant. The doctor is a daughter of Professor Newcomb, of Washington Naval Observatory fame, and has pursued medical study on two continents.

DOCTORS LEE, VAUGHAN and SHAKESPEARE, who constitute the commission appointed to investigate the American army camps, have concluded their labors and report that the pestiferous fly is responsible for the occurrence of the disease. The fever was brought by the volunteers from the state camps, and the flies scattered the germs by feasting alternately on feces, hardtack and "sow belly." This finding is the result of inquiry at the camps in Chickamauga, Huntsville, Fernandina and Jacksonville.

THE Pennsylvania State Board of Medical Examiners recently convened in Pittsburgh and Philadelphia for the examination of candidates for license to practice medicine in that state. The whole number of candidates present at the two meetings reached three hundred and seventeen, Philadelphia contributing two hundred and fifty-four and Pittsburgh sixty-three. A computation of the averages showed that forty-nine aspirants failed to score the required percentage.

WORTHY members of the fair sex who desire to pursue the study of medicine were remembered in the will of Miss Arethusa L. Forbes, which was recently filed for probate in Brooklyn. The document, after providing bequests for certain relatives, decrees that the residuary estate be held in trust, and the income accruing therefrom applied to the payment of "tuition and instruction of meritorious young women at the Woman's Medical College of the New York Infirmary."

KOCH has decided to sojourn awhile in Italy and devote attention to the study of malaria, having realized that certain alleged discoveries claimed by him regarding this disease sorely need further investigation for stronger defense or utter disproof. Italy affords an excellent field for the solution of the malarial problem, as will be observed from statements made elsewhere in this department. The scientist is at present wrestling with the bacillus malariæ in the hospitals at Rome.

MALARIA kills fifteen thousand people in Italy every year, and subjects two million to more or less serious degree of poisoning. The cultivation of five million acres of land is prevented by the scourge, and sixty-three provinces and two thousand eight hundred and twenty-three communes are affected by the uncultivated tract. In view of the condition of affairs the sanitarians of that country propose founding a society for the study of malaria, the range to include the bugbear prophylaxis.

FIFTEEN colleges and universities in Great Britain now confer the degree of Doctor of Hygiene, towit: London University, Cambridge University, University of Oxford, University of Durham, Victoria University, Royal College of Physicians of London, Royal College of Surgeons of England, Edinburgh University, Glasgow University, University of Aberdeen, Royal College of Surgeons of Edinburgh, Royal University of Ireland, University of Dublin, Royal College of Physicians, and Royal College of Surgeons, Ireland.

THE provisional program of the forthcoming meeting of the Mississippi Valley Medical Association, which will meet in Nashville, Tennessee, October 11–14, 1898, has made its appearance and contains the titles of seventy-five papers, together with half a dozen promises to augment the list from prominent writers. Michigan is represented on the program by Doctors Elmore S. Pettyjohn and Charles T. McClintock. The sessions will be held in the House of Representatives and the headquarters will be at the Maxwell House.

THE present Indian plague epidemic has reaped a bounteous harvest of humanity. The number of deaths officially reported already exceeds one hundred thousand, but many persons have unquestionably succumbed to the disease whose demise is not recorded, or incorrectly so, as the natives resort to every means of concealment. The public hospital system has met with disfavor, and the ingenuity of the authorities to originate a more feasible scheme for securing cooperation is severely taxed by the religious prejudice of the native

AT the recent meeting of the American Microscopical Society Doctor Carl Huber, of the University of Michigan, was elected second vicepreside of this body for the ensuing year. Other officers chosen on this occasion wer President, Doctor William C. Krauss, of Buffalo; first vicepresident, Profess A. M. Bleile, of Columbus, Ohio; secretary, Professor Henry D. Ward, of Li coln, Nebraska; treasurer, Magnus Pflaum, of Pittsburgh; executive committ Professor S. H. Gage, of Ithaca, Doctor A. Clifford Mercer, of Syracuse, a Doctor V. A. Moore, of Ithaca.

Small-Pox has again visited the city of Detroit, having been introduced from Sandusky, Ohio, by a colored man. As soon as recognized strict quarantine was laid, but the disease had already spread. The outbreak has thus far been confined to eight patients, all of whom have been cared for at the small-pox hospital. The disease has not been regarded as of a virulent form, although one patient died October 3.

Oliver H. Payne has manifested great interest in medical education by the substantial gift of $1,500,000 made to Cornell University for the benefit of the medical department of that institution recently established in New York City. The donation is intended for the purchase of ground, the erection of a building, and endowment purposes. The authorities have already secured a block frontage on the west side of First avenue, between Twenty-seventh and Twenty-eighth streets, and will forthwith begin excavating for a five-story building with the intention of having it ready for occupancy next autumn.

Twenty-five members of the Detroit Academy of Medicine recently enjoyed the hospitality of Doctor and Mrs. E. A. Christian, at Pontiac. In lieu of the usual paper and discussion the Academy visited and inspected several of the wards and appliances of the Asylum. Two hours were thus profitably spent through the courtesy of the medical staff, whose wisdom and attention in the care of the 1,065 inmates were plainly evident. The growth and extent of the institution occasioned surprise, and yet the unsatisfied demands of other applicants indicate a painful need of more room or other similar institutions.

The physicians who conducted the postmortem on the body of the assassinated empress of Austria, have reported that she sustained a fracture of the fourth rib and injury to the lung and heart. The weapon, which penetrated three and one-third inches, pierced the lung and left side of the heart, inflicting a wound in the latter about one-sixth of an inch in length, immediate fatality from which as a result of hemorrhage having been prevented by the elastic myocardium partially closing the aperture. In this precarious condition the empress walked to the steamer, a distance of about fifty yards, before she fell exhausted.

The Anglican Church convention lately held in Montreal essayed to discuss the low birth rate which obtains in Ontario, and scathingly alluded to the lamentable disobediance of married people in that part of the Dominion to the divine injunction—multiply and replenish the earth. Two important factors charged with bringing about this barren condition were criminal abortion to destroy fetation and the employment of artificial means to prevent conception. One of the principal attributes involved in the birth problem is the very low marriage rate, but owing to a clerical oversight in preparing the counts, this little matter escaped inclusion in the indictment.

The annual meeting of the Detroit Medical and Library Association was held in Bamlet Hall, Monday evening, October 3. Addresses were given by Doctor A. L. Benedict, of Buffalo, New York, and the retiring president, Doctor A. P. Biddle. The latter narrated his experiences from Island Lake to Chickamauga, and again exposed the trials and difficulties of southern camp life in the late war. The following officers were elected for the ensuing year: President, Charles Douglas; vice-president, Frederick W. Robbins; secretary, P. C. McEwen; treasurer, Robert W. Gillman. A committee was appointed to confer with the Wayne County Medical Society relative to the amalgamation of the two societies.

The American Electro-Therapeutic Association convened in eighth annual meeting at Buffalo, New York, September 13, under the chairmanship of Doctor Charles R. Dickson, of Toronto, Ontario, and continued its sessions three days. There was a good attendance and about thirty papers were presented. The social features of the occasion included two receptions, a trolly-car ride, a yacht trip and a dinner. The following officers were elected for the ensuing year: President, Francis B. Bishop, Washington, District of Columbia; first vicepresident, Ernest Wende, Buffalo, New York; second vicepresident, William H. White, Boston, Massachusetts; secretary, Doctor John Gerin, Auburn, New York; treasurer, Doctor Richard J. Nunn, Savannah, Georgia. Executive council: Doctor Robert Newman, New York City, Doctor G. Betton Massey, Philadelphia, for three years; Doctor William J. Morton, New York City, Doctor A. D. Rockwell, New York City, for two years; Charles R. Dickson, Toronto, Frederick Schavoir, Stamford, Connecticut, for one year. The next meeting will be held in Washington city.

RECENT PUBLICATIONS.

REVIEWS.

LECTURES ON TUMORS.*

It is more often amusing than interesting to read the strictures laid upon some works produced for certain specific purposes which they answer in every particular. It would seem from some criticisms that all books must conform to one mold to escape a scathing fire. This work purports to be a reproduction in colloquial style of a course of lectures delivered by the author to his students. The knowledge presented of this subject is necessarily somewhat condensed but for preliminary study or cursory review it will be found eminently useful. Enough of the general pathology, clinical history and treatment is given to impart a practical acquaintance with tumors. This edition is a thorough revision of the preceding and contains new illustrations.

*By John B. Hamilton, M. D., LL.D., Professor of Surgery in Rush Medical College and Chicago Polyclinic; Surgeon to Presbyterian Hospital; Consulting Surgeon to Saint Joseph's Hospital, et cetera. Third edition. With twenty-one illustrations. Philadelphia: P. Blakiston's Son & Company, 1898. Price $1.25 net.

PRACTICAL THERAPEUTICS.*

It must be confessed the author has met an actual want in the preparation of this work. Seven editions within seven years is a self-speaking record. Its success belies criticism. Some of its most excellent qualities are brevity, convenience and reliability. The work will undoubtedly receive still wider acquaintanceship, especially from general practitioners. For the busy man there is no more useful work on this subject. This edition is slightly enlarged over the preceding and contains also a few practical illustrations.

*By Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Doctors G. E. deSchweinitz, Edward Martin and Barton C. Hirst. New (seventh) edition. In one octavo volume of 770 pages, illustrated. Cloth, $3.75; leather, $4.50 net. Lea Brothers & Company, Philadelphia and Ne York.

SYPHILIS AND THE VENEREAL DISEASES.*

Perhaps no branch of medicine has received more attention pictorially th the venereal diseases, and yet atlases of these affections have had but limit circulation owing to their cost of production. In this volume the publish has placed within the reach of all a truly beautiful and useful work. It essentially an atlas of the venereal diseases, though the pathology and treatme are also briefly considered. While the latter differs somewhat from our customary lines it will by suggestion at least prove useful. It is a pleasure to commend this work.

*By Professor Doctor Franz Mracek, of Vienna. Authorized translation from the German. Edited by L. Bolton Bangs, M. D., Consulting Surgeon to Saint Luke's Hospital and the City Hospital, New York; late Professor of Genito-Urinary Surgery and Venereal Diseases in the New York Post-Graduate Medical School and Hospital. With seventy-one colored plates. Philadelphia: W. B. Saunders, 1898.

REFERENCES.

PROSPECTIVE PUBLICATIONS.

W. B. SAUNDERS, 925 Walnut street, Philadelphia, announces the early publication of "Butler's Materia Medica and Therapeutics," "Griffith's Care of the Baby," "Stengel's Text-Book of Pathology," "Hurst's Text-Book of Obstetrics," "The American Pocket Medical Dictionary," "An American Text-Book of Diseases of the Eye, Ear, Nose and Throat," edited by deSchweinitz and Randall, and "Church and Petersen's Mental and Nervous Diseases." In addition to these several volumes of the "Lehmann Medicinische Handatlanten" will soon be placed on the market. The very low price at which these atlases will be sold is due to the fact that the initial cost of publication, contemplated in the production of the expensive colored plates, is now borne by eleven publishers instead of one, a combination having been formed for that purpose. This movement insures products of the best talent and the most elegant style, at prices unprecedented in cheapness.

ORIGINAL ABSTRACTS.

MEDICINE.

To Locate the Stomach.—Doctor A. L. Benedict, of Buffalo, New York, in *Medicine* for February, 1898, publishes a method of locating the stomach by means of a capsule of bismuth viewed through a fluoroscope.

* * *

The Most Ancient Medicine.—This is perhaps hops (*Popular Science News*) which were used as a medicine two thousand years before Christ, as is attested by pictures of the plant on the Egyptian monuments of that date.

* * *

The Administration of Strychnine.—Doctor H. C. Wood, in *American Medico-Surgical Bulletin*, says this drug is commonly given in too small doses to produce the effect it is capable of. One-sixtieth or one-fortieth grain of the alkaloid is of very little value even as a simple tonic, except in persons of abnormal susceptibility. He had habitually given, for many years, the tonic dose as one-twentieth grain three times a day, and has never seen a case in which it produced anything like serious symptoms. In nervous females such doses will sometimes cause increased nervousness, or perhaps sleeplessness. In a very few cases that he has met with, as an idiosyncrasy, even the smallest doses of strychnine cause vomiting. Very frequently it is better in the use of the drug to give none of it after three or four o'clock in the afternoon, and thus secure the patient from wakeful nights.

Obstetric Statistics.—From an interesting series of forty tables published in the *Zeitschrift für Heilkunde*, Volume XIX, Numbers II and III, based on a series of six thousand and eighty-one labors, at the University Clinic of Prague, we take the following:

TABLE IX.

DELIVERIES.	PRIMIPARA.	MULTIPARA.	TOTAL.
Spontaneous, ...	2,967	2,532	5,499
Operative, ...	275	307	582
	3,242	2,839	6,081

TABLE X.

OPERATIVE CASES.	TOTAL.	PER CENT.	PRIMIPARA.	MULTIPARA.
1—Forceps, . . .	212	3.51	145	67
2— . . .	124	2.36	72	52
3—Version, . . .	86	1.39	12	74
4— . . .	66	1.08	7	59
5—Symphyseotomy, .	2	0.03	..	2
6—Caesarean section, .	15	0.28	5	10
7—Producing abortion, .	18	0.35	4	14
8—Perforation, . . .	116	2.20	37	69
9—Decapitation, . .	10	0.19	..	10
10— . .	3	0.05	..	3
11—Embryotomy, . .	4	0.07	1	3
12— . .	1	0.02	..	1
13—Extrauterine (celiotomy),	1	0.02	..	1

In the 6,081 cases cited there were 64 cases of twins (1.05 per cent.). Including these we have these presentations:

TABLE XII.

Occipital, ...	5,788
Frontal, ...	9
Facial, ...	39
Breech, ...	132
Footling, ...	69
Transverse (oblique), . .	72
Shoulder, ...	2
Undetermined, . . .	34

among these

Eclampsia,	28 cases.
Placenta previa,	17 cases.
Pelvic flatness,	186 cases.

TABLE XXVI.

In a total of 6,226 births there were 622 cases of fever of all kinds and of these 230 are accounted to the clinic.

MORTALITY TABLE.

There were 54 deaths; 52 in the institution and 2 after transference. Pneumonia caused 6 deaths, eclampsia 2, tuberculosis 2, nephritis 3, embolism of th pulmonary artery 2, acute anemia 8, uremia 1, heart disease 3, typhoid 1 sepsis (?) 1, rupture of sac in extrauterine case 1, severe childbed fevers 24.

ARTHUR F. FISCHER, M. D.

The Physician and Surgeon

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ORIGINAL CONTRIBUTIONS.

MEMOIRS.

SOME POINTS IN THE DEVELOPMENT OF CARCINOMA WHICH SHOULD BE CONSIDERED WHEN ENDEAVORING TO ARREST ITS GROWTH.*

By HENEAGE GIBBES, M. D., DETROIT, MICHIGAN.
HEALTH OFFICER OF DETROIT.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

CARCINOMA is divided into three forms: by their development, by the tissues from which they grow, and by their mode of growth. These different forms are:

Squamous Epithelioma.
Columnar Epithelioma.
Glandular Carcinoma.

These may again be subdivided into minor classes according to the tissues predominating in each, as encephaloid and scirrhus, which differ only in the amount of fibrous tissue and consequent rapidity or slowness of their growth. In all these varieties of carcinoma the cells form the only neoplastic structure, that is they are the only individual items of the neoplasm which are truly abnormal. All the fibrous tissue and blood-vessels, when they exist, are perfectly normal in their development and function, although affording nourishment and support to abnormal growths. It is therefore of paramount importance that we should clearly understand the way in which these neoplasms grow and the differences in the growth of the different varieties, before we can devise any method by which we can arrest their growth and destroy it, or in other words, cure carcinoma. This problem is one which has occupied the minds of the profession for a long time and various attempts have been made to arrest and destroy these neoplasms but in no case, as far as I am aware, has any attempt been made which has been based on a thorough knowledge of the differences that exist in their modes of development.

I will now describe shortly the different varieties of carcinoma and their mode of growth, and then with the aid of the lantern I will throw their magnified images on the screen, which will enable you to see the points I wish to emphasize.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION.

Squamous epithelioma will be first. This growth consists entirely of squamous epithelium similar to that in the rete Malpighii from which it grows. The points to which I wish to call your attention are, the downward irregular growth, and the fact that this downward growth has no effect on the mesoblastic structure into which it grows.

In the growth of an epithelioma the same course is followed as in the development of the dermal appendages such as teeth, hair follicles, et cetera. The new epithelium passes downward into the cutis vera but in an irregular manner, and as the processes grow branches are formed from them in every direction, so that when a process is cut longitudinally, should it have a secondary process growing from it at right angles, the secondary process *will* be cut transversely, giving rise to the so-called nests, or pearls. The same appearance is produced when a process is cut at right angles as is easily seen by the outer cells corresponding to the rete Malpighii, while the inner ones are horny. As these processes grow they gradually become smaller until they consist of one or two cells in thickness. It is then that a cell easily becomes detached, passes into a lymph channel and is carried away by the lymph stream, until it lodges in some part at a distance, where it commences to divide, and forms a secondary growth, similar to the primary from which it sprung. As these processes push their way into the cutis vera they produce no change in the connective or mesoblastic tissues; this is an important feature distinguishing these growths from glandular carcinoma, as I shall show later.

There is one point I wish to call attention to, that is, in a number of cases I have found that the influence, whatever it may be, which causes the abnormal growth, will start the epithelium on its downward growth, at a comparatively small point in the rete Malpighii, and the newly formed epithelioma will grow laterally from this point, under the normal epidermis, at the side, and almost in contact with it, and yet will not have the slightest effect on it, so as to cause it to take on abnormal growth; and yet every cell in the new growth has in itself the inherent power to set up a similar growth when detached and carried by the lymph stream to some distant part.

The next is columnar epithelioma, and this variety must be classed with squamous epithelioma from its mode of growth, and also because it does not affect the surrounding tissues into which it grows. It is much more difficult to work out the development of columnar epithelioma on account of the parts wherein it is formed. When it is in the pyloric end of the stomach it can only be obtained after death, and in the most advanced stage, but in the rectum when removed by operation, at an early stage, by taking the two together a fairly accurate knowledge can be obtained. In the first place it follows the development of the glands from which it springs, both in growing outward from the lumen of the intestines, and in the arrangement of the cells, which simulate in an irregular manner the normal glands, although varying in size, shape and direction, and the surrounding connective tissue is not affected. Secondary growths, in the liver for instance, follow the normal type in the same irregular manner. It is also a curious fact that when the primary growth, as is often the case, is affected with mucoid or colloid degeneration, the secondary growth is similarly affected.

Coming now to the glandular carcinoma we have a totally different condition. Taking the mammary gland as an example, in the normal condition we have a single layer of secretory epithelium on a basement membrane. If it followed the same line of development as columnar epithelioma, the growth would be outward from the lumen of the acini, but this is not the case. The earliest appearance of carcinoma is shown by an increase of cells inward, and instead of a single layer we find three or four, which go on increasing until the lumen of the acinus is filled up, the basement membrane absorbed, and a mass of cells grows widely in every direction. But this is not all; as soon as this abnormal growth starts it has an immediate effect on the surrounding tissue; new blood-vessels are formed for its nourishment, and the fibrous connective tissue of the part sends out new trabeculæ to form a sustaining tissue for the abnormal growth, and both blood-vessels and connective tissues are developed and grow in a perfectly normal manner, and perform normal functions. All this new growth is formed from glandular or secretory epithelium and not from the columnar epithelium lining the ducts of the gland which can often be seen perfectly normal in the midst of a mass of carcinoma.

The fibrous trabeculæ which are developed as a support to the neoplasm are formed in the same manner as in other parts, by bundles of white fibrous tissue with interfascicular lymph spaces, and as these lie closely in contact with the cancer cells, it is an easy matter for a single cell to get into a lymph space and pass on to the nearest lymphatic gland, where it at once commences to divide and forms a growth similar to the primary one.

There is another point which may have some significance. I have noticed that when a squamous epithelioma grows near a nerve trunk without coming in contact with it, an increased growth of fibrous tissue takes place, the perineurium is thickened and in the case of Pacinian corpuscles, the outer capsules become thickened and distorted by contraction. In the glandular carcinoma, on the other hand, I have found nerve trunks and Pacinian corpuscles in the midst of the neoplasm, in a perfectly normal condition.

From what I have said it will be seen that there is a wide difference in these varieties in many points, while they have the one feature in common, the ability of each cell to reproduce a new growth similar to the primary, when separated from it. Carcinoma is therefore simply an overgrowth of cells under an abnormal influence. Whether the difference in the mode of growth is caused by some difference in the abnormal influence producing it, or by the functional peculiarity of the parts affected, I am unable to say; but I do think that any method that may be tried for the purpose of arresting the growth should be based on these differences.

A squamous epithelioma is nourished by the lymph passing from the nearest blood-vessels into the lymph sinuses of the tissues into which the neoplasm is growing, and the current of lymph is always from the periphery to the centre; while a glandular carcinoma gets its nutrition from regular blood-vessels, especially developed for that purpose. It would seem that the treatment in the first case might be mainly local, while in the second a greater effect would be produced if the remedial agent were carried to the part with its nutrient supply.

A SYMPOSIUM ON MEDICAL JURISPRUDENCE.

MALPRACTICE.*

BY JUDGE WILLIAM L. CARPENTER, DETROIT, MICHIGAN.
JUDGE WAYNE COUNTY CIRCUIT COURT.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

MALPRACTICE from a legal standpoint is bad or unskillful practice resulting in injury to a patient. It follows that there is no malpractice unless wrongful conduct in a legal sense has caused an injury to a patient. That wrongful conduct may be due to wilfullness, ignorance or carelessness. That wrongful conduct may manifest itself in too many ways to be enumerated. A disease may be inaccurately diagnosed, improper medicine administered, insufficient attention given, a wound unskillfully dressed, an operation unskillfully performed. Whether or not the conduct is wrongful is determined by comparing it with the standard fixed by the law. The law holds that one is bound to have the qualifications which a physician, justified under the circumstances in treating the case, should have, and that he must exercise such care and skill as a reasonably prudent physician should exercise. If one does what a physician possessing such qualifications and exercising such care and skill would not do, or fails to do what a physician possessing such qualifications and exercising such care and skill would do, in either case his conduct is from a legal standpoint wrongful.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

Just what qualifications must one possess to justify his treating a case? This must depend on circumstances. Generally he should possess the qualifications of one ordinarily skilled in the treatment of such cases. Circumstances may legally justify one who does not possess such qualifications treating the case. A physician having a general country practice is compelled to treat cases which he would turn over to specialists if his patients resided in a large city. The care and skill which a physician must exercise are those which an ordinarily careful physician should exercise. The same circumstances which would justify a physician treating a case without possessing the qualifications of one ordinarily skilled in its treatment will justify the exercise of less care and skill. It is enough if he exercise the care and skill which should be exercised by one possessed of the qualifications which, under the circumstances, justify his treating the case. Accordingly it has been held that a physician in a small town or sparsely settled country district is not bound to exercise the same care and skill as one residing in and having the opportunities afforded by a large city. This does not mean that no qualifications are required and no care and skill need be exercised by a country physician. The country physician should have the same preliminary training as his city brother. The law simply recognizes the well-known fact that he has not the same opportunities to develop skill, to acquaint himself with new discoveries or to consult specialists. A physician's obligation to exercise care and skill requires him to learn and adopt new methods of treatment whenever an ordinarily prudent and skillful physician should know and adopt them. On the other hand the same obligation forbids his using new methods until they have been sufficiently used to justify a prudent physician using them. In other words, it is legally safe to follow the beaten path and do what the profession approves. It is unsafe to try experiments. It is undoubtedly true that a physician sometimes proves himself a genius, and greatly advances medical knowledge by an experiment disapproved by his fellow physicians. At the same time reflection must convince us that experiments are so fraught with danger that the ordinary physician should not be encouraged to make them.

A physician's obligation does not depend on his compensation. He can, if he chooses, refuse to undertake a case for which he will receive no pay, but if he does undertake it his obligation is the same as if he were fully compensated. No matter how ignorant, unskillful or careless a physician may be he is not legally responsible unless his ignorance, lack of skill or carelessness injures his patient. By injury is meant some harmful result which would not have followed proper treatment. The patient need not have died, nor even have been made worse; it is enough that a sickness has continued which proper treatment would have cured. The law says that every physician shall have the qualifications and exercise the care and skill which an ordinarily prudent and careful physician should have and exercise under the circumstances, but it does not undertake to say what qualifications such physician shall have or what care and skill he shall exercise. These are questions of fact to be decided by the jury. These qualifications, this care and skill, must vary with the knowledge of the laws of health. In other words, greater qualifications and higher skill are required now than formerly. If any of you are disposed to criticise this rule of law as uncertain and indefinite, I can only say that your criticism is not unjust, but I do not see how a more certain and definite rule can be announced in the present state of medical and legal science. If any of you can discover one you will confer a favor upon your profession and on those with whom you deal.

It is the custom of most speakers to emphasize their address by pointing out the importance of the subject of that address. I shall not follow that custom. The physician is entrusted with the custody of the body, health and life of his patient. He realizes better than any one else can that the exercise of the highest possible skill and care makes the difference between life and death. His duty as he sees it therefore demands not ordinary attainments nor ordinary skill, but extraordinary attainments and extraordinary skill. He will not content himself with the exercise of ordinary care; he will say, if there is anything I can possibly do to save this life, to relieve this suffering, it is my duty to do it. Your duty as you understand it, your duty as fixed by the ethics of your profession, is so much higher, so much nobler than your legal duty that I do not think it is very important for you to know what your legal duty is. If I were to advise you, therefore, I should say do your duty, not as prescribed by law, but as prescribed by the ethics of your profession. Strive for the higher, not for the lower standard. This high standard of duty results not only in inestimable good to your patients, but it gives to the world models of unselfishness, of true manliness, of whom IAN MCLAREN'S "Doctor William McClure" is an ideal and at the same time a true type.

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EXPERT TESTIMONY.*

BY THOMAS HISLOP, LL.B., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

CIRCUMSTANCES have been such since I was called upon to introduce this subject by a few remarks, that I have been unable to give the time and attention necessarily required to place this subject before you in any sort of comprehensive paper, and indeed the subject is so vast that I shall content myself with only general remarks on some of the various classes of expert testimony.

An expert is, from the very derivation of the word, one instructed by experience, and to become one requires a course of previous habit or of study, so as to be familiar with the subject. It is not because a man has a reputation for sagacity and judgment and power of reasoning that his opinion is admissible in evidence, because such a person might be called in all cases. It is because a man's professional pursuits, his peculiar skill and knowledge in some department of science not common to men in general, enable him to draw an inference where men of common experience, after all the facts proved, would be left in doubt. Bearing this in mind we find it will at once appear that there are a great many different classes of experts. I shall not attempt to classify them further than to divide them into two great classes—first, nonprofessional, and second, professional.

The evidence offered by a nonprofessional witness becomes in many instances of the highest value, and while perhaps it might not be looked upon by some as that of an expert, it is nevertheless admitted and entitled to great weight. This distinction must be borne in mind, however, that in the first class the witness is not allowed to express an opinion unless he has a personal knowledge of the facts on which the opinion is based. He cannot be permitted to answer a hypothetical case; his opinion must be based on facts within his own personal knowledge, and as a rule he must state these as fully as he may be able, then having done so, he is allowed to give his opinion based on the facts he has testified to.

There is, however, what we may term an exception to this rule. For example, in questions relating to the identity of persons—in which the witness may be correct although unable to describe a single feature, or give the color of the hair, or of the eyes, or of the dress worn. Such witnesses may generally testify concerning the age or identity of a person, the appearance of a person, sober or intoxicated, angry or not, or sad, or whether he manifested fear or grief or was suffering pain, or attachment for another. He may testify in regard to the physical and mental condition of another, whether sick, in good health or in poor health, or failed in health and was formerly in good health, was rational or irrational, sane or insane, or whether his mind was clear or had failed mentally in a given time, or of his habits—temperate or otherwise, whether childish or eccentric, and concerning reputation. He may also testify concerning matters of size, color, weight and quantity, give estimates of time and distance, the character of sounds and direction from which they seemed to come; how certain things appeared to the witness, whether a thing was done in an insulting or jocular manner. He may give his impressions of cold or heat, light and darkness, and the disposition of animals. He may also testify on questions of value; he may state his "belief" in certain cases, giving his grounds for it. In some cases he may testify as to the capacity or sufficiency of an object for the purposes intended.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

In all these cases, as I said before, he must first state the facts observed by him and on which his opinion is based.

I have embraced in the second or professional class, all the others although I may not be technically correct in this. The Supreme Court of New Hampshire states in concise language when experts may give their opinions, as follows: (1) Upon questions of science, skill or trade, or others of like kind. (2) When the subject matter of inquiry is such that inexperienced persons are unlikely to prove capable of forming a correct judgment upon it without such assistance. (3) When the subject-matter of investigation so far partakes of the nature of a science as to require a course of previous habit or study, in order to the attainment of a knowledge of it.

Another authority puts it this way—"The true test of the admissibility of such testimony is not whether the subject-matter is common or uncommon, or whether many persons or few have some knowledge of the matter; but it is whether the witnesses offered as experts have any peculiar knowledge or experience not common to the world, which renders their opinions, founded on such knowledge or experience, any aid to the court or to the jury in determining the questions at issue."

In this second or professional class, the witness, as distinguished from the first or nonprofessional class, may have the facts stated to him in a particular question involved without any personal knowledge of the facts himself, and then give his opinion, or he may have a hypothetical question put to him and then give his opinion.

In both classes, whether or not the witness offered is competent to express an opinion, should be made to appear to the satisfaction of the court. In the first class after the witness has stated the facts and his means of observation, the court may then decide whether the facts testified to and his means of observation are such as to justify the expression of an opinion.

In the second class, the question whether the subject-matter of inquiry in a particular case is of such a nature that it does not lie within the common experience of all men of common education so that the testimony of experts is admissible in evidence, must be determined by the court, and also whether or not the witness offered as an expert is possessed of peculiar knowledge or experience not common to the general knowledge of experience of all men of common education, before the evidence can be received.

Now, a word or two as to what each of these classes of witnesses may not testify to. It is exceedingly difficult to lay down a rule or even any general principle as to when they may testify and when they may not; whether the facts to be examined are such as lie within the common experience of all men of common education, or whether they lie outside the range of ordinary intelligence.

For example, a railroad expert could not be asked whether the time which a railroad train stopped at a station was sufficient to enable passengers to get off.

That bankers and brokers could not be asked whether brokers and bankers would discount a note of the appearance of the one in question without a wilful failure to inquire into the circumstances under which it was obtained, the note being written on tracing paper.

That detectives could not express an opinion as to whether it was possible to commit a robbery in the manner charged.

That a medical expert who had testified as to the injury of the plaintiff's fingers being very severe, that the fingers were badly smashed, that the middle finger was quite stiff, and forefinger permanently stiff, could not be permitted to answer such questions as these: "I will ask you to state to what extent the injury impairs the usefulness of that hand for any skilled occupation or any occupation requiring a quick and ready use of the hand?" "State the degree to which the usefulness of that hand would be impaired for skilled labor, requiring a quick and ready use of the fingers, such as coupling and braking cars on the railroad?"

On the trial involving the sanity of a testatrix, if a medical expert be asked whether she possessed sufficient mental capacity to make a will, his opinion is not admissible; or, whether a certain person possessed testamentary capacity to make a will on a certain day, the medical expert could not be permitted to give his opinion.

A person who has studied medicine but is not at the time practicing testifies as an expert on a medical point. Another witness who is a practicing physician is then called and asked his opinion as to whether the first mentioned person is qualified to so testify. He cannot be permitted to give his opinion.

The reason for rejecting all this class of evidence is that the jury are competent to form an opinion equally as well as the expert who offers to testify.

I should perhaps have said that it is not always necessary to state the facts already proven before the opinion of the expert is called for as applicable to these facts. The facts may be afterward proven in the case, but if they do not subsequently appear, the evidence of the expert must be excluded from the case. And the expert must base his opinion upon the facts stated to him in the question and his answer will be excluded if he has recourse to his own knowledge of the particular case.

The above rule, well established in almost all the states, was departed from to some extent in a case within my own experience, that of Kraatz versus Brush Electric Light Company, where hypothetical questions directed to the effect of certain conditions of electric light wires as to the transfer of electricity are proper, although some of the conditions inquired into are not shown to exist in the particular case, but are shown to be caused by the same general principles that are supposed to govern electricity and are therefore analogous to the case in hand.

Now, as to the value of expert testimony the competency of the expert is not the only question courts look at, and regardless of his qualifications where theories are advanced and conclusions drawn from undisputed facts in an effort to establish other facts the evidence of experts is discarded where it contradicts a witness who testifies to a certain fact or facts within his own knowledge and juries are generally charged to that effect. In a recent case our Supreme Court has said this regarding expert testimony: "It is best to limit expert testimony to its proper uses since it is not now held in the highest esteem; nor has it been found to be free from the infirmities and temptations that belong to human nature. And since a man's opinion cannot be met and tested as could his testimony to the existence of a fact, expert evidence, while useful in many cases, is dangerous in all, and should be restricted for the purpose of accuracy in determining the truth, which is the aim of all judicial investigation, to those cases where its use is well nigh indispensable because of questions of science or skill being involved, in which a special and peculiar knowledge is desired in order to arrive at the truth."

One of the great dangers of expert testimony arises when the expert instead of limiting his opinion to what he has found from experience and investigation, gives it from similar cases which he has read from authors upon the subject. When such evidence is given, it will be readily observed that certain facts in particular instances existed, known to those authors, which the expert, did not know existed, and his evidence is in the nature of heresay testimony and therefore unreliable. The late JUSTICE CAMPBELL, in the celebrated case of the People versus Millard, wherein Millard was charged with murdering his wife by putting poison in her medicine, illustrates and points out so clearly the importance of this that I think it may be of value to all to give it. After detailing how far the positive evidence went, he says: "We are obliged, therefore, to see that the case actually depended almost entirely, if not absolutely, upon the conclusive character of the symptoms; and as the only proof that respondent committed any wrong was based on the inference that he substituted poison for other medicine, without any direct proof on that subject, the experts become witnesses on whose testimony the whole case rests. Any error in allowing expert opinions was therefore a fatal error.

"Of this testimony there were two branches, namely, the chemical and the medical. An expert in one of these is not necessarily an expert in the other. In the present case the four principal experts appeared in both capacities. The line does not seem to have been drawn as closely as it should have been in examining the experts generally.

"It is sufficient to say that in some questions assumptions of fact were made, supported by no evidence; the actual administration of poison was assumed, when it was only deducible by inference; symptoms were detailed without any order of time, or any such connection of antecedent and subsequent occurrences as could give them any significance which would be definite; and no such certainty was called for as would enable the jury to know upon what basis of actual evidence on the facts shown by the witnesses who were not experts, the experts themselves were testifying. It also appeared on several occasions that the experts had assumed facts not submitted to them for their opinion, but culled by themselves from what they had heard during the trial, and with which they had no right to meddle for themselves.

"It is hardly necessary to say that such testimony is not competent. Another source of error quite as mischievous, and which the court evidently desired to prevent, but did not always do so, was the introduction of what is no more than hearsay evidence, in the shape of references to writers and books in such a way as to invoke their authority. As we have had occasion on more than one record to explain heretofore, expert evidence is only admissible on the theory that the jury cannot be supposed to comprehend the significance of facts shown by other testimony which needs scientific or peculiar explanation by those who do not comprehend it. But this does not permit heresay testimony of the written or spoken opinions of other persons, whom the jury have no means of examining as to their learning, their honesty, or their sources of special knowledge. Every medical and scientific writer bases much of his conclusions upon what he believes to be true in the reported facts and opinions of other men of science. Those facts may be correctly stated, or they may be assumed on small or no foundation. Those opinions may be taken carelessly at second hand, or they may have been thoroughly weighed before adoption. No one can tell whether a medical book or opinion is reliable or not, until he has applied himself with some fitting preparation to its study and criticism. The book may be good in part and bad in part, and neither court nor jury can presumptively ascertain its quality.

"No one has any title to respect as an expert, or has any right to give an opinion upon the stand, unless as his own opinion; and if he has not given the subject involved such careful and discriminating study as has resulted in the formation of a definite opinion, he has no business to give it. Such an opinion can only be safely formed or expressed by persons who have made the scientific questions involved matters of definite and intelligent study, and who have by such application made up their own minds. In doing so, it is their business to resort to such aids of reading and study as they have reason to believe contain the information they need. This will naturally include the literature of the subject. But if they have only taken trouble enough to find or suppose they find that certain authors say certain things, without further satisfying themselves how reliable such statements are, their own opinions must be of very moderate value, and whether correct or incorrect, cannot be fortified before a jury by statements of what those authors hold on the subject. The jury are only concerned to know what the witness thinks, and what capacity and judgment he shows to make his opinion worthy of respect. If the opinion of an author could be received at all, it should be from his own words—not in single passages, but in combination; and this, as has been heretofore held, cannot be done. It is excluded chiefly as both unknown as to value and as hearsay, and an attempt to swear to his doctrine orally would be hearsay still further removed, besides involving the other difficulty of needing interpretation and responsibility."

There are cases wherein the testimony of experts, however, is entitled to great weight, for instance the witnesses who have long been conversant with insanity in its various forms, and who have had the care and superintendence of insane persons, are received as competent evidence, even though they have not had opportunity to examine the particular patient, and observe the symptoms and indications of the disease at the time of its supposed existence. Such opinions, when given by persons of great experience, and in whose correctness and sobriety of judgment just confidence can be had, are of great weight, and deserve the highest consideration of a jury, although even then they are not bound by it.

A question of some importance is whether an expert called to testify to an opinion based on facts not known to him as a witness is entitled to compensation over and above the regular witness fees, and is a difficult one to answer.

The English practice is now settled that extra compensation for scientific witnesses may be taxed. A most elaborate discussion, with various authorities cited, is had in the case of Buckman versus State, 59th Indiana, wherein one H. being on trial for rape, a physician was asked a medical opinion, but refused to answer unless compensated for his opinion. He was committed for contempt and the Supreme Court held that the committment was erroneous. Many of the states hold one way while many hold the other, and in Iowa extra compensation is prohibited by statute, while in Rhode Island such additional fees as the trial justice may deem just and reasonable are fixed. In Michigan I do not know of any rule or custom except that extra fees for expert testimony are not permitted to be taxed.

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EXPERT TESTIMONY FROM THE SCIENCE STANDPOINT.*

By LEARTUS CONNOR, A. M., M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

In general, testimony is a statement of fact, or proof of said fact, by a witness—it is an original observation, stated in written or oral language.

Expert testimony is the statement of one who has made many observations of facts, similar to the one under consideration, and who has given much study to the relationship of these facts to each other and related phenomena.

Thus one who has seen a dead body, may give testimony, as to the fact of death; but only one who has seen many deaths, from various causes, and traced the operation of these causes, would be able to give expert testimony, as to whether the death was from a poison taken internally, or injected hypodermatically or into some of the natural orifices of the body; from a blow; a surgical operation; or failure of the heart or lungs. As it is unlikely that one person would have equally large experience in each of these causes of the fact death, we must have as experts, the chemist, the surgeon, the physician.

Historically, expert testimony grew out of the need of courts for greater knowledge than their own experience or that of witnesses giving testimony of simple fact. As early as the reign of Henry VII, the English courts were in the habit of summoning to their assistance, persons qualified to advise upon scientific and technical questions. But as the English law of criminal procedure is litigious, rather than inquisitorial, the scientific adviser was soon treated as other witnesses, subject to examinations and cross-examination—so ceasing to be the adviser of legal tribunals. Under these conditions, the expert is subject to the personal and professional attacks of counsel, attacks intended to disturb his scientific habit, and interfere with his efforts to give the court the real teachings of science, in the matter under consideration. He is compelled to fight for his own reputation as well as for the honor of truth. He is subject to insults, to revilings, covert insinuations, and all sorts of annoyances, in order that his testimony may be weakened or overthrown. Like the bull in the gladiatorial ring, the red flag is flaunted before him, the sharp spear thrust into his side, irritants thrown into his eyes, in order that opposing counsel may, perchance, in an ungaurded moment, destroy in the minds of the jury, the value of his testimony.

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* Read before the Wayne County (Detroit) Medical Society.

It must be remembered that this attack is made by one utterly unskilled in science, so that ignorance is pitted against knowledge. This ignorance of science is not confined to opposing counsel, but is shared by both judge and jury so that single handed the expert, under most unfavorable conditions is given the task of teaching unwilling pupils the truths of science acquired by years of patient study. The picture is pathetic, and well may the expert pray with the great Teacher, "Father, forgive them, for they know not what they do."

It is obvious that the first is the only method consistent with securing the best aid which expert testimony can give the courts in their efforts to secure justice to all. When, in the course of a trial, facts are presented of doubtful meaning, in their bearing on the case, such facts should be referred to competent experts, whose decision should be accepted by both sides as final. Thus men of science would be able to give the courts all their knowledge respecting the case and retain their personal dignity.

There are many ways for securing such a jury of experts; each side of a case might select one, and the two a third; or the judge might appoint three; or the state might appoint for life or during good behavior, a jury of experts, giving exclusive attention to questions referred to it by the courts, and being paid by the state. To supplement this there might be a United States jury of experts, for the use of United States courts, and for resort in case the state experts were unable to agree. However appointed, this jury of experts, should hold place for life or during good behavior, and be paid from other sources than the contesting parties, so as to be out of the reach of "influence" by any power except that of wrong doing. To be a member of such a jury would be an honor worthy of the highest talent. Its very existence would dignify scientific truth as opposed to mere "wrangling" under forms of legal procedure, and tend to place the legal courts on a higher plane before the community, and afford contestants larger hope for securing justice. Honest courts, judges, lawyers, litigants, and people in general need a change along these lines in order that their individual and combined interests may be best promoted. The present system benefits only the dishonest, the incompetent, the vicious.

Expert testimony is or should be exact science and given under scientific conditions. If lawmakers and lawyers had a scientific education, they would long since have returned to the principle that first governed the giving of expert testimony. Under the proposed system, only actual experts of proved integrity would be called to decide scientific disputes; under the present system only those are called by litigants, who promise to support their side—honest competence is a side issue, and must necessarily be so. Granting that one side is supported by true science, the other must be devoid of it; in both cases the object is to win the suit rather than demonstrate the truth; yet demonstration of truth is the sole function of expert testimony worthy of the name.

It may be added that every common council, every board administering large public affairs, every legislature, every congress, should have its experts appointed for life or good behavior, for the purpose of instructing legislatures, and commissions, councils, et cetera, in those matters of science concerning which they are ignorant. These commissions, in the intervals of official labor, should be doing original work along lines upon which their judgment was likely to be asked. Scientific knowledge honestly applied in all the affairs of our common life is the only safe foundation for a republic and a happy people. In the light of this obvious fact it is urged that courts have at their command "scientific experts" totally independent of litigants and political parties, who shall give exact, honest, thorough reports upon all scientific questions occurring in the progress of litigation. We have had altogether too much "mint anise and cummin"; let us have some of the "weightier matters of scientific law" in the conduct of judicial matters.

Under the present system the expert is associated with a lawyer and the interests of one of the litigants; under the proposed system, he will be totally divorced from lawyers and litigants, and from all interests and connections other than questions of science. Such close association with a litigant causes a sympathy that acts as a blur to clear scientific vision, and so vitiates expert testimony, not always, perhaps, but of necessity sometimes, and never is it helpful. Besides, the fact that the compensation of the expert is from the litigant with which he is associated tends to bias judgment that he may honestly earn his fee by doing all possible to advance his client's interests. This is a frame of mind hostile to clear scientific judgment and an element of weakness in our present system. Then association with a lawyer under these circumstances is more than likely to mar scientific vision. This naturally follows from the radically different objects which each is seeking. The lawyer is intent not on justice, but on winning his case. It is his duty to marshall every possible agency for the benefit of his client, just as it is the duty of the physician to leave nothing undone which will save a patient's life. In both instances the moral character of the patient or client, their associations, or the results to others makes no difference. Success to either doctor or lawyer in a particular case may mean ruin to many interests, and harm to the community, but still they are professionally compelled to do the best possible for the interests of the individual whom they have elected to serve.

But an expert as such is never a physician; as an expert he has undertaken a scientific study for a scientific purpose. Absolute truth is his object, not persons. Hence the association of such a one with a partisan lawyer is necessarily contaminating—the more intimate the association the worse. Alone by himself or with those working solely for truth it is quite difficult enough to maintain a scientific frame of mind, but associated with unscientific, intensely partisan lawyers, it is too much to expect that he will retain an unbiased mind.

Under the present system modern science has no chance to promote the interests of justice; under the proposed system the entire community would feel that their interests in so far as modern science was concerned, were absolutely safe. This feeling would be of inestimable value to the operations of the courts. Individuals would no longer bear wrongs, submit to blackmail, endure grievous evils, because the present methods of judicial procedure are utterly incompetent to deal with the case. Take for instance, wrongs against sexual life—what chance has either man or woman for justice in any court. Their only recourse is bearing the wrong in silence, or taking justice in their own hands after the manner of the frontiersman. But under the proposed system, the expert testimony would be so given as to make of force, actual scientific fact, and this fact the courts would be compelled to accept as final; the pollution of the court room by discussions demoralizing to the community would be prevented. Nothing is more evident, in this age of science than that the courts need the advantage of its service.

If under the present system physicians are willing to serve as experts the experience of their predecessors make clear several things.

(1) No case should be undertaken unless the individual has secured in writing the obligation of responsible parties to pay the expense of his work. If any expect that the notoriety of public crucifixion in court will pay for services, or that verbal promises by the irresponsible will afford adequate compensation he will, when too late, discover his mistake. Especially is it necessary to secure such written promise to pay a definite sum when the public officials are to settle the bill. These never pay a fair bill to any expert, if it be presented after service be done. Collectively these officials have no reason or conscience respecting services rendered by an expert to the community.

(2) No case should be undertaken without the most exhaustive study of both its sides. Further, the expert should place himself in his opponent's place and ask such questions as he would ask. He should also study the opinions of other experts on the same facts, and distinctly formulate the reasons for accepting or rejecting these. Having done all this, he is in a position to decide whether he desires to engage in the court contest.

(3) Expert testimony should always distinguish between facts and opinions. Thus the fact that atropia is a poison differs from an opinion as to the manner in which it caused death in an actual case. Opinions should be based by the expert upon facts personally known to him or proved in the evidence.

(4) Expert testimony should be given in the simplest English possible. Here a spade must be called a spade; bruise is better than contusion; black eye is better than extravasation underneath the skin of the blood of a ruptured vessel. Testimony is worthless unless fully comprehended by the judge and jury. It follows that no effort should be made to answer a question which is not fully comprehended by an expert—as the answer will necessarily partake of the muddy mind of the speaker. Expert testimony must be perfectly transparent to the lay mind, else it will vitiate its object.

(5) Expert testimony must be without any qualification. All "ifs" must be removed ere it is given. If this be impossible it is better to answer "do not know." But when "do not know" is given as a reply it must be strictly adhered to, else the counsel will make the expert and his testimony both ridiculous.

(6) Expert testimony should never be undertaken by one who lacks perfect self-control under the most trying circumstances. It not infrequently happens that counsel deliberately undertake to break down expert testimony by making angry the witness, and so catching him off guard. Hence, he that does not have full control of his temper, even when called a liar, rascal, thief, or other insulting epithet, either by insinuation or actual statement, had better not assume the work of a modern expert.

(7) Expert testimony should not be given by one slow to catch hidden as well as expressed meaning of language, and unable to promptly make fitting reply; otherwise his best intentions will be thwarted by skilled counsel, especially when acting under the prompting of other experts.

(8) Expert testimony should never be attempted by a physician who is unable to wholly divest himself of his accustomed habits of thinking and reasoning. These habits have trained him to look for causes and manifestations of disease in order that he may plan for saving life and restoring health. The new habits of mind, which as an expert he must assume, compel him to look at facts as they are related to the guilt or innocence of a person charged with a crime or wrong against another. It is not possible for all physicians to assume this reversed mental attitude of the expert with equal readiness, and many never can assume it. Others who once assume it are unable to return to their former mental state, and so are greatly injured in their medical work. Patients detect a difference in their medical attendant which they do not like, though generally neither patient or physician recognize the nature of the mental

change wrought by the expert habit. A patient calls a physician to be cured of some physical disability, not to be studied as a possible criminal.

Finally, this paper desires to call attention to the false position in which legal procedure has placed scientific testimony and scientific experts, and stimulate effort for their removal from such position to that which they first occupied—that of advisor to courts on all matters of science.

103 CASS STREET.

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PRIVILEGED COMMUNICATIONS TO PHYSICIANS.*

BY ALFRED LUCKING, LL. B., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

IT was early held by the judges of England that communications made by a client to a lawyer acting in his professional capacity were privileged. This was adjudged sound because public policy demanded that the client should feel perfect freedom in laying before his counsel the whole truth. On the other hand the judges held that information given to a physician to enable him to prescribe was not privileged, and that he could be compelled to divulge fully in court all that he had learned, although the confidences might have been of the most profound nature. Likewise penitential confessions made to priests and ministers were determined to be free subject of judicial inquiry. How apt we are to exaggerate the relative importance of our own affairs! So, lawyers on the bench very readily saw weighty and unanswerable reasons why communications to lawyers should be inviolate, while they could not discover any good reasons why confidential communications made to physicians should not be exposed in open court. The judges were perfectly honest in both cases, but it occurs to me it is barely possible that a bench composed of doctors of medicine might have reversed these decisions; while a bench composed of doctors of divinity might have declared that both erred, and that only confessions made by penitents to the divinely appointed profession should be forever sealed from human inquiry.

However, in most of the states of the union statutes have been enacted by the various legislatures making communications to physicians privileged. The Michigan statute was adopted as early as 1846, and it has remained unchanged until now. It reads as follows:

"No person duly authorized to practice physic or surgery shall be allowed to disclose any information which he may have acquired in attending any patient in his professional character, and which information was necessary to enable him to prescribe for such patient as a physician or to do any act for him as a surgeon."—HOWELL, §7516.

By statutes of this character the purpose has been to place physicians as witnesses on the same general footing as attorneys. But there are marked distinctions too numerous to detail here, but the general scope of which may be gathered from this observation: as the attorney's privilege (so-called) is wholly judge-made and based upon reason, individual cases may be, and properly are, decided according as they fall within or without the *reason* of the rule; while in the case of physicians the privilege is fixed by the precise language of a few unyielding statutory lines. And therefore the rule as applied to attorneys is much more elastic than the rule as to doctors, and yields much more readily to the justice of the particular case. Thus attorney's assistants, clerks and the like are held by the courts to be within the reason of the rule, and they are therefore excluded as witnesses, while under this statute doctor's assistants, nurses and the like can testify freely, although but for the confidence reposed in the doctor they would not have been confided in or allowed to be present.

When this statute was enacted, and for thirty-five years thereafter, there was no law in Michigan prescribing who were "duly authorized to practice physic or surgery." Anybody could practice. Nice questions might have arisen as to who were covered by this statute, who were "duly authorized," but I do not know of any reported cases. In 1883 the act requiring practitioners to be graduates of a legally authorized medical college and duly registered was passed, and it would no doubt be now held that the act of 1883 fixes and determines who are the ones "duly authorized" under Section 7516.

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*Read before the WAYNE COUNTY (Detroft) MEDICAL SOCIETY.

As the statute forbids only duly authorized physicians to testify, it is plain that all quacks and irregular practitioners may freely testify, and hence they have greater liberties than you; but we must not hastily conclude that this is injurious, for it follows that the patients of quacks have no protection, hence the tendency of the statute is not only to encourage the employment of the duly authorized physician, but also to fortify and maintain the ethical standard of the profession.

The word "information" as used in this statute does not mean simply the knowledge imparted verbally by the patient or his friends, but it is construed broadly to include all knowledge gained by the doctor in the course of his attendance, whether by direct communication, by observation, or by the exercise of any of his five senses.

It is not necessary that there be any contract relation between the doctor and the patient. Though he be a charity patient the rule is the same. It is not even necessary that a physician be called by the patient or his friends. He may even be sent, employed and paid by persons of hostile interest, as by the prosecuting attorney or an employer threatened with a damage suit. Nevertheless, if he treat the patient or lead the patient to believe he is about to act for him professionally and thus gain his confidence, the statute applies and the testimony is ruled out.

Not everything told to a physician in his attendance is privileged. It is only the "information necessary to enable him to prescribe." The word "necessary" here does not mean indispensable, but rather proper or useful; and it will be given great latitude, as every thoughtful physician seeks to learn all he can of his patient before prescribing for him—his habits and history as well as the symptoms of the particular case; and every confidence thus drawn forth must be protected by the statute, even though the doctor might say, or the court might think, that some particular fact was not necessary to enable him to prescribe.

Many physicians have a well defined but erroneous notion that everything confided to them while attending the patient is privileged, and that they cannot be compelled to disclose anything of that character. An illustration occurred in our circuit court a short time since, in an interesting divorce case in high life, wherein the husband called the physician who had attended the accused wife. Despite his indignant protest, the doctor was compelled to testify and disclose that in her illness, and fearful of the worst, she had admitted her love for the co-respondent, and had given into the doctor's hands a diamond ring to be returned to her lover in case of her death.

While all information useful in order to prescribe is barred, some facts intimately connected with the attendance and treatment are admissible. As, for instance, whether he is the physician of the party in question or not, also whether he has actually treated him, also as to the number of times, the dates and places. This testimony of itself is often very important, and it is not excluded by this statute, even though all evidence as to the disease itself, its origin, history, development and treatment is.

This statutory rule is often spoken of as the "physician's privilege," and many physicians think that it rests with them to say whether they shall testify or not (even though the patient be willing). This is wholly erroneous. The privilege is absolutely that of the patient. It is established for his protection and his only. Instead of being the physician's privilege it is the physician's disability or prohibition, to be invoked or not at the option of the patient. It is not long since that one of the oldest and ablest members of your profession, called as a witness in the United States circuit court, declined to testify as to the facts he learned in his treatment of the deceased, and upon its being decided by the judge that the deceased had waived the privilege by his signature to certain writings in his lifetime, the doctor claimed his privilege as a physician and refused to open his lips until informed by the judge that he had no privilege or choice in the matter except the choice of going to jail if he did not answer.

You will notice that this statute is *absolute* in its terms, declaring the physician shall not be allowed to disclose. It contains no exceptions. And while it is true that statutory language as a rule must receive the construction which its plain meaning calls for, no matter how apparently unjust, nevertheless it does not follow but that the courts have taken liberties with this statute which its plain terms would not seem to warrant. Its language bars the evidence in all cases. It gives no option to the patient to permit evidence to come in any more than it does to the doctor or the judge. Nevertheless, it is held uniformly by all the courts that the plain purpose of the statute is to enable a patient to make known his condition to the physician without danger of any disclosure by him which would annoy the feelings, damage the character or impair the standing of the patient while living, or disgrace his memory when dead, and that therefore he may waive its protection.

Without impugning these decisions or any others, it is no wonder a certain arbitrary monarch declared he did not care who made the laws of the country if he could have the construing of them.

Quite a large number of decisions have been rendered by the courts as to this subject of waiving of the privilege in question. The patient may testify fully himself regarding subjects made known to the doctor. And whether he testify truly or falsely, it will not be a waiver of his privilege to have the doctor excluded. A patient may be compelled to testify fully by the opposing interest —except he cannot be compelled to state what he told the physician. So third persons present at the interview may testify fully, but not the doctor.

If the doctor is called to the witness stand and the patient is represented in court, he must object seasonably, else the privilege is deemed waived for that trial, although it may still be claimed on any subsequent trial of the same matter. In the absence of the patient and his representatives, it is the plain duty of the physician to claim the exemption; although it is perhaps still more the duty of the court to exclude the testimony unless an express waiver be shown.

The calling by the patient of one physician, and taking his version, is not a waiver of the right to exclude the evidence of another physician, even though they acted together in treating the patient.

If the patient call the doctor and examine him in part as to the treatment, disease, et cetera, he opens the door, and the other side may bring out all the facts; but it does not seem that the mere calling of the doctor and examining him as to matters not privileged, would operate as a waiver of the right to exclude privileged matters. This privilege is held personal to the patient and perpetual, not dying when he dies. He may, however, waive the benefit of the statute in advance as, for instance, by appropriate language in an application for life insurance signed by him.

Although it is said by the courts that the one greatest aim of this statute is to save the patient from disgrace, and that its beneficence is perpetual, yet it has been held by our supreme court that the representatives *of the estate* of the patient might waive it after his decease. It is very easy to imagine a case wherein the financial representative of the deceased might desire the statute waived and the evidence admitted, while a loving family might be bitterly opposed to the disclosures. Under the decision of the supreme court the administrator or executor—though caring nothing for the deceased or his reputation—has the power to open the door of this closet and expose the skeleton, despite the express wishes of all those holding in tender reverence the memory of the deceased. The basis of this decision must therefore necessarily be that the privilege is rather financial than personal and sentimental in character. It would make rather an awkward dilemma for a trial judge if, for instance, the Union Trust Company, as administrator of the estate, were to waive the privilege and insist upon the doctor disclosing his secrets, and the widow and children were to rise in open court and protest.

In New York the courts maintain the opposite doctrine and declare that only the patient can waive the privilege, and after his death the lips of the physician are forever closed. The New York doctrine is altogether logical while the Michigan is more practically useful—since many cases would fail of justice but for the doctor's evidence.

This privilege is given the patient as a shield for defense, and not as a sword for attack; hence if he bring an action against the doctor for malpractice he cannot claim the benefit of this statute and exclude the defendant doctor from revealing all he has learned. And no doubt if a physician were accused of crime in connection with his treatment, he would be permitted to reveal fully his knowledge.

Many persons think that the prohibition does not apply in criminal cases, but it does; and this sometimes serves to facilitate the escape of the guilty, as in cases of self-inflicted abortions and the like.

While this statute is generally considered to relate to the testimony of the physician in a court proceeding, yet its wording is broad enough to cover any time or place. Of what avail is it that the physician is barred from opening his mouth in court if he may stand upon the street corners and detail the facts?

The supreme court of Michigan has declared (it can hardly be called a decision, since the question was not directly involved) that the surgeon, without the consent of the patient, has no right from motives of self-glorification to publish facts about an operation.

To utter or publish facts is now, generally speaking, the right of anyone. That the matter published is true is always a defense to an action of libel or slander for damages. It is certain that the publication of the truth is not always justifiable from a moral point of view, for it may often do great harm to individuals who themselves are wholly blameless, as to publish of a young woman that she is the child of a disreputable mother. It is settled by our modern decisions in civil suits for damages that this is no libel if true.

But what of the physician who gives publicity on the street corners or in print, to secrets learned by him in the practice of his profession? Suppose he thereby cause a young woman to lose her marriage, or a young man his position. Is it a defense to an action for the damage done for him to allege and prove that he only spoke the truth, or is he liable for disclosing secrets which, by positive statute, he was forbidden to reveal?

A CASE OF OBSTETRICS, WITH ALBUMINURIA.*

By HEDLEY WILLIAMSON, M. D., C. M., Detroit, Michigan.

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One of the graver complications that confronts the obstetrician is albuminuria, leading to the still graver condition eclampsia. I take it for granted that, excluding such rare causes as hysteria, epilepsy, et cetera, producing convulsions and like conditions, it is conceded an overworked or damaged kidney failing to eliminate the normal amount of urea and allowing albumin to escape is the true cause of eclampsia.

Eclampsia is a rather rare condition, so much so that one is not often permitted to see such a case. Albuminuria is not so infrequent, yet so much so that after a number of negative urinal analyses the general practitioner is very apt to become indifferent, and fails to do his duty to every obstetrical case that appears to be perfectly normal. I think monthly urinal analyses should be made during the earlier months and latterly weekly. Albumin is not always present. It may be one day and disappear the next; one may have rather serious renal insufficiency and no albumin be present, or albuminuria may come on very suddenly as in the history I will subsequently relate. The instant albumin is discovered I should regard the case as serious, however slight the amount. There may be absolutely no other symptom to indicate such a condition; or one may find any or all of the following: headache—often frontal, dizziness, nausea or vomiting, and a coated tongue. Pay particular attention to nausea in the latter months, pain and distress at the pit of the stomach, perhaps rather a dry, harsh skin, pain through the limbs, or a slight rise in temperature. Edema is usually present in the lower extremities from natural conditions; but regard seriously the slightest indication of general anasarca, puffiness of the eyes or swelling of the hands, and a small quantity of highly colored urine, with frequent desire to void such.

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*Read before the Detroit Academy of Medicine.

The condition being present, how are we to treat it? Relieve the kidneys. To accomplish this put the patient to bed, order a milk diet, and administer large doses of magnesium sulphate by the mouth and an eight ounce saturated solution of the same by the rectum. The only error committed is not giving enough of the latter. Employ the bath or the wet pack—the latter for hours if necessary, to clear the urine. Have the patient drink large quantities of mildly diuretic waters. If the skin does not act, pilocarpine, one-sixth grain, hypodermically, may be administered. If under such treatment, the urine does not become clear in eight or ten hours, induce labor. The condition of the patient will indicate how quickly this must be brought about. Perhaps the simplest way is to introduce the catheter aseptically. If the condition demands it, rapidly dilate the cervix with the finger, Barnes' bags or any regular steady method that will promptly bring about labor. If a convulsion threatens, bleed at once, removing ten to fifteen ounces, and give a little chloroform, or large doses of chloral. I think the administration of opium is bad practice. The best plan is to empty the uterus as rapidly as possible. If necessary this can be done in two hours.

A serious problem for the physician to decide is, given a pregnant woman with albuminuria which does not respond to treatment, when should labor be brought about? We have both the life of the mother and child to consider. The rate of mortality to the mother when once eclampsia has set in is very large, ranging from twenty-five per cent. up. Altogether a most distressing result, the more serious the uremia is the more danger there is to the child. Under careful tonic treatment, with the eliminating organs active, a mild albuminuria is not very dangerous; but the patient must be watched very closely in case of rapid increase of the symptoms. Under the most favorable circumstances the child is viable after seven months, but the majority of infants are lost at that age, and if the albuminuria has been severe at that stage, with the still increasing work thrown upon the maternal system, it seems to me that it is dangerous practice to allow pregnancy to continue. The older the fetus, the larger it develops, and the labor consequently becomes harder and longer. But unless the symptoms are alarming I should advise carrying the case along to the eighth month. Any time after that, if the symptoms should not promptly respond to treatment, I would induce labor. The dangers to the mother are not then very grave, the child is in a good condition to survive, and any sudden increase of uremia dangerous both to mother and child is avoided. I do not think there is a class of cases wherein attentive, rational, and aggressive treatment of a patient is more pleasing and gratifying to the mother, friends and, not least, to the physician himself.

Mrs. S., aged thirty-two years, had conceived once, seven years before, bearing a strong, healthy child. Nothing unusual occurred in this case beyond a long, severe labor. The patient came under my care in 1897 for nervous symptoms, such as palpitation of the heart. No organic lesion was present, but leucorrhea and inability to conceive, together with a badly lacerated cervix, were the conditions. I advised operation to repair the cervix after the menstruation and in the meantime used antiseptic astringent douches. The expected epoch did not occur as she had become impregnated. Nothing unusual happened during the period intervening beyond two or three nervous attacks of palpitation and difficulty of breathing brought on by domestic trouble. No albumin could be found in the urine following these seizures. Latterly urinal examinations were made about every three weeks. On May 1, there was slight puffiness of the eyes, and the hands were edematous, together with distress and pain at the pit of the stomach which did not respond to the usual treatment. All functions of the body though were active and urine obtained from that night and the following morning was perfectly normal. During all the time fetal movements had been very slight, and I was unable to determine the fetal heart sounds owing to the attachment of the placenta over the upper anterior portion of the uterus.

On May 7, at night, I was called and found considerable general anasarca; temperature 101°, with headache; the skin quite moist and acting freely. I ordered a large saline cathartic and small doses of quinine and phenacetin. I was unable to obtain a specimen of urine. The following forenoon the symptoms had subsided considerably, but albumin was present in a very large amount. It became solid with heat and nitric acid. On the same day, May 8, the temperature was 100°. I put the patient, at 2 P. M., in hot pack, gave large doses of magnesium sulphate by mouth and saturated solution by rectum, and prescribed large quantities of diuretic waters. The skin, kidneys and bowels all acted very freely, but at night there seemed to be no diminution in the albumin. This treatment was continued until 7 A. M. the following morning, May 9, when I saw the patient again. All the organs had acted very freely throughout the night. Along toward morning there had been considerable numbness. and movements of right forearm, the eyes were glossy and pupils sluggish. Some suspicious pains had been present, but owing to the frequent and rather painful movements of the bowels, their true character was not determined. I decided to induce labor, and so ordered the hot pack removed, a large quantity of milk administered, and the patient to rest a couple of hours, the pack and movements of the bowels having kept her awake all night.

On returning at 9 A. M. to induce labor, I found nature had anticipated me. The pains became stronger and she was normally delivered at 1:45 P. M. of a male child. I had great difficulty in resuscitating the infant. After twenty minutes of artificial respiration and frequently dilating the anus the child came to, when I tied the cord. One point worthy of mention here is the rapidity and certainty of result when the sphincter ani muscles are dilated. A normal placenta was shortly delivered and the mother went rapidly on to a perfect recovery. The temperature was slightly subnormal the first two days, rose to the highest point—99.2°—on the third day, and since then has been normal. Repeated urinal analyses have failed to detect the slightest trace of albumin. The kidneys and all organs have acted very well. Unfortunately, the child, a very small, weak infant, died at 10 P. M. the following night, eight hours after delivery.

BICYCLING: FROM A HEALTHFUL STANDPOINT.

BY THEODORE R. MACCLURE, LANSING, MICHIGAN.

HOW TO BREATHE.

AN important item to consider in wheeling, is how you breathe. You can breathe through your nose, you can breathe through your mouth; but if you breathe through your nose, you can be satisfied that you are making no mistake. If you breath through your mouth, however, it would be well to give the point due consideration and if necessary consult your physician. For healthful wheeling, breathing through the nose should be practiced. In the nose are little hairs, cilia, which have been placed there by nature to strain out impurities that may be in the air, and the moist mucous membranes of the nasal cavity have a similar function. Nature has made no such provision for mouth breathing, and there is great danger of taking impurities into the lungs which may cause disease and consequent death. The tubercle bacillus (consumption germ) is one of these impurities, and when you stop to think that about one-seventh of all who die are killed by this little germ it is important that every precaution be taken that is possible to avoid infection, not only by this germ, but by other disease-producing germs.

There is another important reason why mouth-breathing demands attention, and that is it indicates that the vital portion of the organism—the heart—is not performing its function properly. Difficulty in breathing, so that one is obliged to breathe through the mouth, indicates a lack of blood supply to the lungs and also a weakened condition of the heart.

Abdominal breathing has a direct bearing upon a healthful condition of the human economy, and is particularly sought for in professional vocalists. Not only this, but it tends to a better form, and better digestion. Exercise of the abdominal muscles has a tendency to keep the internal viscera in their normal position, particularly so if not forced out of place by undue pressure caused from tight corsets. DOCTOR KELLOGG has said that displacement of the internal organs by the lax condition of the abdominal muscles is the most prolific cause of dyspepsia. Exercise these muscles and they will perform the work nature intended they should; you replace the displaced viscera and replace the health of the individual. Wheeling exercises this portion of the muscular system. Singers have sought this mode of exercise and have been benefited. They indulge in a moderate exercise. One of New York's prima donnas says, "When I took my spin regularly in the mornings I felt bright for the entire day. The regular exertion, if we may call it that, seemed to start circulation and deeper and more evenness in breathing. So when I began to practice I found my voice much clearer than on mornings when I did not ride."

THE DRESS.

In the female the dress should be simple and as nearly as possible made in "combination," the weight of the garment coming upon the shoulders. The corset and waistbands should be abandoned entirely in order to give the waist full liberty and in no way to restrict the action of the abdominal muscles which have their function to perform. The corset is injurious enough at any time, but it is especially injurious when the lady is exercising and should not in any way interfere with her breathing. Such exercise as wheeling requires more liberty of breathing than does ordinary pastime. But it is hoped the time is coming when the corset will be discarded and will not be worn by our women. However, as the intelligence of woman increases the corset will decrease. The corset should not be used while riding unless the breasts demand a support, then only a loose corset which comes to the waist, or a breast support that comes from the shoulders. A substitute for corsets is suggested in a Ferris or Equipoise waist. The shirt waist, the jacket, the lady riding boots that come to the knee, all go to make up not only an attractive but a healthful dress. There are some who are opposed to the short skirt because of some esthetic misunderstanding, but the time is coming when there will be no objection, the short skirt will be universally worn not only by wheel women but by all classes of women. Of course the skirt should be no shorter than necessary. It is universally conceded by those ladies who have worn the above-mentioned dress, that there is nothing that compares with it for convenience and ease. It is gratifying to notice that many women are adopting the short storm skirt; it is a step in the right direction. The writer has in mind a lady newspaper reporter whose work takes her outdoors in all kinds of weather. Recently she adopted the short storm skirt and rubber boots which she wears during rainy and wet weather.

There is only one dress for the man, and that is the regular golf suit. Some have indulged in knickerbockers, fitting the leg tightly in such a way as to be inconvenient. No garb for the man looks so well as the complete golf suit, with bicycle shoes, adorned with pretty golf stockings. The time is not far distant when the city population, doctors, bankers, lawyers, students, clerks, and I might say the clergy will wear this garb during their everyday work. Long trousers will be a thing for "dress" only.

FOR WOMEN AND GIRLS.

One of the most important questions that can be considered, is the use of the wheel by our girls and women; if it is a healthful exercise, it should be preached from every pulpit, taught in every school and praised and commended by every physician. If it is not a healthful exercise it should be universally condemned. It is my belief that nothing in the form of exercise has ever come to the gentler sex that is so beneficial; it gives them *natural* color in the face, gives them better circulation, better breathing, takes them into the fresh wholesome air, and above all things makes them companions of their husbands, and to the unmarried it supplies not only a pleasing but a healthful entertainment for their best young men.

It has been claimed that it tends to lead our women and girls astray. There is no reason why it should; it certainly would have a tendency to prevent it, with married women, because their husbands are with them more hours in the day than when the wheel was unknown. Women and girls who ride wheels should exercise the same good judgment in their selection of gentleman company as they would were they in the drawing room at home, or any other place. Roof gardens and other such enticing places should be avoided. It is well known that weak, indolent women are more liable to have their sexual feelings excited than are strong, healthy women, and it seems to me that it ought to be a powerful argument for any exercise which shall place our women on the same footing as our men, so far as strength of mind and body is concerned. With the young lady there should be no more privileges given her with a wheel than she had before; all young ladies should be under the surveillance of their parents until they have the discretion to properly care for themselves. There is only one possible bearing the claim may have, and that is the erotic influence of a bad saddle. Just how much there is, is not known; if a saddle causes any abnormal feelings, it should be exchanged for one that does not.

Another argument which has been used against the use of the wheel by girls not having reached the age of puberty, is that it may deform or interfere with the proper development of the pelvic girdle. An improper saddle might result in an abnormal development of the pelvic bones, that is, a saddle that presses on the perineum might cause the ischial tuberosities to be brought closer together, and thus produce what is called a contracted pelvis, a condition not at all desirable. It is also said that the constant pressure of a hard saddle upon the perineum causes the muscular tissue to toughen, and thus interfere with childbirth. These claims may have considerable foundation when thought of in connection with a bad saddle. There is no doubt that a bad saddle can cause many abnormal conditions, but that is no argument against a good saddle which permits the weight of the body to rest upon the ischial tuberosities.

PROFESSOR ROBERT L. DICKINSON, M. D., of Brooklyn, New York, a prominent gynecologist, has given the subject of "bicycling for women" a considerable amount of scientific study. His views are contained in the following summary: "Under proper conditions of costume and posture, with care that the exercise be gradually increased and properly graded for the individual case, and where there is no acute inflammation to contraindicate it, bicycling will probably show itself capable of large results as an agent in curing pelvic disorders, since it is one of the few exercises which attract women. In view of woman's disabilities, and the disadvantages under which she has suffered in attempts to obtain interesting and beneficial muscular exercise, it seems hardly too much to say that the promise from the bicycle is far-reaching. Through it and the habits it will engender we look for better dress, freer dress, shorter dress in bad weather; for better exercise, for out-of-door activity, for steadier nerves, stronger muscles, painless periods, easy labors."

At at meeting of American gynecologists recently the subject of bicycling for women was thoroughly discussed, and it seemed to be the unanimous verdict that bicycling in moderation would produce wonderfully beneficial results in the coming woman. It was especially commended for patients suffering from nerve weakness or exhaustion, indigestion, constipation, and general debility caused by sedentary and indoor life.

Gynecologists seem to be more or less united in the belief that wheeling has curative effects on various female disorders, misplacements, et cetera. There is no question but that wheeling properly done has a wonderful influence upon weak women. It is common belief among woman having misplacements, weaknesses, et cetera, that they generally feel better and have less trouble during the season for wheeling. Women that can walk but little, can ride a wheel with perfect impunity.

Of course during the period of menstruation women should refrain from the use of the wheel or any other excessive exercise. However, some physicians claim that women can ride a wheel even during this time. Nevertheless it is undoubtedly true that during this time of general weakness, when it is a question of walking or riding a wheel, the wheel should be chosen. The same amount of work is accomplished with much less effort.

Wheeling has been likened to the sedentary life of the operator of the sewing machine, but there would seem to be no resemblance. The stooped position, the restricted action of the lungs, digestive organs and pelvic organs, and the indoor environments cannot be compared with the upright position and the outdoor exhilarating influences attending the use of the wheel.

Exercise for women and especially invalid women has occupied the best minds, and is a subject of constant controversy. Gymnasiums, physical culture, and many other methods of exercise have been recommended, but those who know most about the subject are recommending the wheel to take the place of such exercise. DOCTOR JOHN H. KELLOGG,* Superintendent of the Battle Creek Sanitarium, has given the subject of woman's ailments much attention, and is an authority on any subject relating to this branch of medicine, or relating to the disease or health of woman. He is unqualified in his praise of wheeling for women. Concerning a case of complete nervous exhaustion which came to his Sanitarium for treatment—the young woman was so weak she could scarcely stand alone for any length of time—he attributes her improvement to moderate use of the wheel. He says: "At the end of a few weeks her total strength had increased from 1,450 pounds to 2,500 pounds, a gain of half a ton. One of the most noticeable gains was in the muscles of the arms and legs, particularly the latter. The leg muscles had gained in strength from 900 pounds to 1,450 pounds. The arm muscles gained nearly fifty per cent. and the strength of the chest muscles had doubled. The total strength of the muscles of the thighs, which are especially used in this exercise, was increased from 394 pounds to 728 pounds. The young woman had been completely transformed from a feeble, nervous, discouraged individual, to a bright, rosy-cheeked, vigorous young woman." He cites similar cases, giving the results of a scientific investigation by means of his unique and original physical measurements and charts.

Concerning the use of the wheel DOCTOR KELLOGG* further says: "There is no better form of exercise for increasing the strength of the muscles of the trunk than bicycle riding. The trunk is a weak portion with the great majority of women. Weakness of the muscles of the trunk is the principal cause of backache and of the great share of the peculiar ailments from which women suffer."

**Good Health,* Volume XXVIII., pages 174-75.

The writer has in mind a case of an anemic woman with nervous exhaustion. After a few weeks of medical care she was able to walk about but was unsteady. Although she could not mount her wheel alone, with help she could ride a hundred yards the first day, and every day increase the distance, using great care nôt to overdo. Within a short time she was able to ride a mile or so, without the least exhaustion, but during this same time she was able to walk but a few yards. With tonics and the wheel she soon regained her health, and within three months was able to take rides of twenty miles in one day without fatigue.

As an exercise machine, the bicycle holds first rank, because of its ability to use every muscle of the body. That every muscle is used will be affirmed by every beginner; for, after the first ride, he will aver that he never knew he had so many muscles in his body. Every one of the muscles (about four hundred) of the human anatomy seems to take particular delight in being prominent.

No better testimony for the benefits of the wheel, is needed than to feast your eyes upon lady bicyclists. Full of life, sturdy and well-developed, no grander sight can mortal eyes gaze upon. Always ready for a ride, never tired, she forgets all woman's ailments, headaches, backaches, et cetera. It gives them just what they need, outdoor, active exercise, gets them out of the illy-ventilated house, and gives them the fresh pure air of nature.

Every woman should have a certain time of each day which she should devote to outdoor exercise. Get out into the open air, take a short spin on your wheel, dress loosely that all the organs of your body may perform their functions naturally, make a study of your breathing so that the oxygen of the air will reach the most remote portions of your lungs, and you will feel like a new woman and will forget that you have any pains or miseries. Try it and you will be convinced. You will wish that every day in the year was a bicycle day.

HOW TO SIT UPON A WHEEL.

It is to be regretted that a large percentage of the riders do not assume the proper posture or position. It is needless to say that bending over, as in the act of scorching, is not the proper position. The body should be erect and not dissimilar to the erect position assumed during walking. Every effort possible should be made to educate the wheeling public. **Professor Robert L. Dickinson**, of Brooklyn, has given this subject a great amount of study. He has written at least one paper in which he had illustrated the various postures by means of photographs from living models and skeletons upon the wheel.

The correct posture is when the trunk is held erect, the seat directly over the pedals, the elbow a little flexed, and the wrists extended. When one of the pedals is at the lowest point, the leg on that side should be only slightly flexed and the foot should be at right angles with the portion of the leg below the knee-joint; the leg on the higher side will take care of itself. Only the ball of the foot should press the pedal. When the saddle is too low the rider cannot assume the position just described; and, when the saddle is too high, there will be a rocking action of the body caused by an effort to reach the pedal at the lowest point. A posture other than the "correct" one should be avoided. Be careful not to have the saddle too high or too low, and see that it is directly over the pedals, in order not to have a waste of energy or an unhealthful posture.

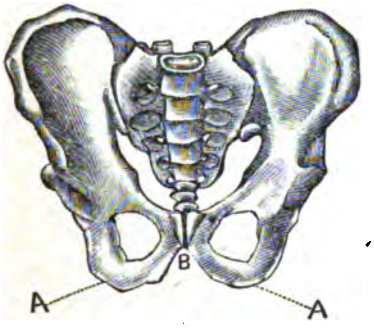
THE SADDLE OR SEAT.

Upon the seat depends largely the comfort of the rider and determines more largely the all-important question of whether cycling is a healthful or a harmful exercise.

It is to be regretted that that portion of the wheel upon which the rider sits, has been termed "saddle." It is a misnomer and is responsible for the many mistakes made in the manufacture of that portion of the bicycle which should be called "the seat." Sitting upon a wheel should not be dissimilar to sitting on a chair, et cetera. Of course it is necessary that the seat be as narrow as practicable, in order that the legs may not be spread apart more than is absolutely necessary.

The term saddle has probably originated from the saddle used in horseback riding, but there is no resemblance. The equestrian saddle is broad and flat and there is little difference between sitting on it and sitting on a properly constructed chair.

The bicycle seat should have the same relation to the rider as does the properly constructed chair; it should be flat, rigid and fixed in its shape; and at no time should any part of the seat cause undue pressure upon parts in one of the most delicate regions of the human body. In order to better place this portion of the subject before the reader, I have in connection herewith three illustrations—Plates I, II and III.



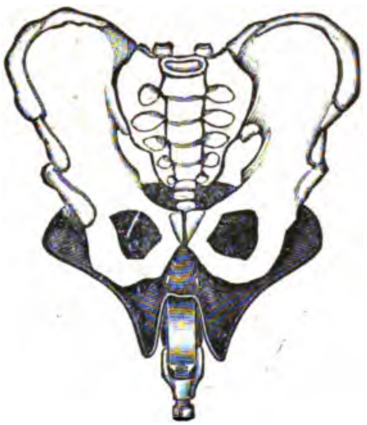


PLATE II.

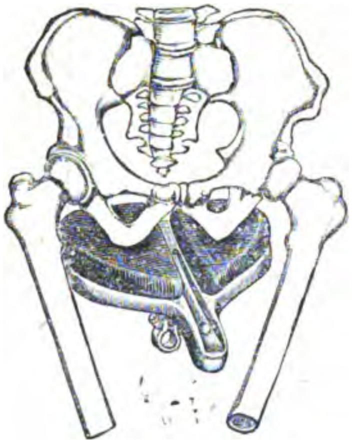


PLATE III.

Plate I represents the bony pelvis of the human being. The two prominences marked "A" are the ischial tuberosities upon which the weight of the body when riding a wheel should rest. "B" exhibits the pubic arch, which protects a portion of the body upon which the weight of the body should never rest for any considerable time. The pubic arch is nature's protection for some of the more delicate and sensitive parts of the body, among which are the prostate gland, the bulb, urethra, et cetera. Any condition which shall interfere with nature's arrangement, will throw down the bars of protection, and sooner or later result in permanent and serious injury. The insidious way in which these injuries occur, misleads the one being injured; and while there may be premonitory symptoms or warnings, they are not such as would be observed until too late, when the injury has occurred.

Plate II represents the bony pelvis seated upon the common hammock saddle, the saddle which should be guarded against. It will be seen that the weight of the body ceases to be supported by the ischial tuberosities, but is supported by that portion of the body called the perineum.

Plate III exhibits the bony pelvis resting upon a flat rigid seat, the weight of the body falling upon the two bony prominences of the pelvis. The seat represented in this plate will be seen to consist of two separate pads or cushions, between which is a groove or depression (about one inch across) for the better protection of the perineum from pressure. Any bicycle seat made upon the plan exhibited in this plate will be less likely to cause injury to the delicate portions of the human anatomy situated in the region of the perineum. The horn should be free from sharp corners, and padded or cushioned when practicable.

The pelvic bones vary, and especially in some females the tuberosities are closer together than in others. The seat should be wide enough so that these bony prominences of the pelvis shall rest comfortably upon the pads. It is equally important that the seat be not too wide, in order that peddling can be accomplished without unnecessary friction or chafing by the edges of the seat.

I have endeavored to show to the reader the essentials of an anatomical and hygienic seat or saddle, and in previous portions of this paper to suggest some of the ways in which injuries may occur.

[CONCLUDED.]

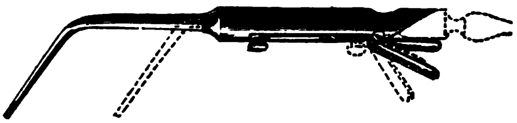
A POWDER-BLOWER WHICH CAN BE STERILIZED.

BY EMIL AMBERG, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE powder-blower illustrated by the accompanying figures is of metal, and the tube connecting the powder-blower with the tube of the air-supplying apparatus is of "durit."

R. DETERT, of Berlin, Germany, who manufactured the instrument for me, assures me that "durit" can be boiled without any damage. Thus the powder-blower can be rendered aseptic.



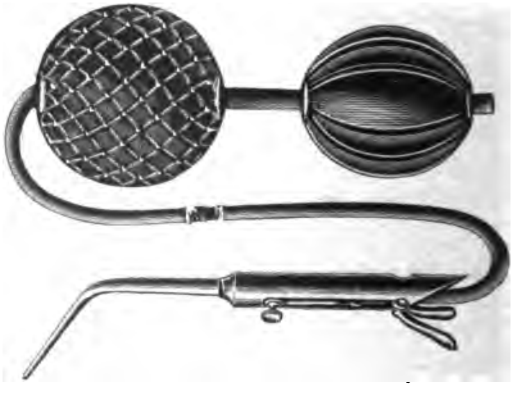
In order to fill the blower, the inner tube has to be brought into the position marked by the dotted lines.

The air can be cut off by pressure on the lever at the base of the instrument.

The tip of the instrument is bent in the form of an obtuse angle in order to be used in treating the ear.

The size and form of the instrument, however, can be changed according to the purpose for which it is needed.

The figures show the instrument in about five-twelfths of its natural size.



32 ADAMS AVENUE WEST.

MANAGEMENT AND TREATMENT OF VAGINITIS IN CHILDREN.*

By I. L. POLOZKER, M. D., Detroit, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

As the title of my paper indicates the treatment of vaginitis in children, I suppose I should confine myself strictly to that part of the subject, but I cannot resist the temptation to say a few words as to the disease in general.

Vaginitis in infants and young girls is more commonly found than is generally supposed by the general practitioner. The causes of vaginitis in children are too numerous to mention, but it has been my experience to find seventy per cent. of them specific, due to gonococci. A case that came under my observation at Saint Mary's polyclinic, two years ago, has since that time led me to always examine the vaginal discharge of little girls for gonococci, and, as I said before, in seventy per cent. of the cases I have been rewarded in finding the specific germ. I think many of us are to blame for the occurrence of gonorrhea in children, as it is always innocently acquired, either through the parents or other members of the household having gonorrhea.

Sanger reports a case of pyosalpinx and peritonitis from gonorrheal infection in a little girl three years old. It is only two weeks ago that I treated a man for gonorrhea, and from his history I learned that the patient had had the disease twice before. To my surprise, after handling his penis he started to rub his eyes with the same hand. When I stopped him and cautioned him of the danger to his eyes, he was astonished, saying, "I have had gonorrhea twice before, and the doctor never told me that." I think for the sake of other members of the family, and especially the children, we cannot too strongly insist upon our gonorrheal patients being careful not to infect other parts and other members of their homes. Such cases of gonorrheal vaginitis only occur in the lower classes, and are met more in the practice of the free dispensary and by physicians practicing among this class of people. The disease in the children of such people is not noticed by their parents until all its symptoms have developed. If the mother sees a little discharge she takes it for normal, as she herself probably has a similar discharge and does not feel sick. Not until the child begins to suffer much pain on micturition, itching, difficulty in walking, due to the rubbing of the excoriated surfaces between the thighs together, getting pale and commencing to fall away, as they call it, does the mother become alarmed, and take her little girl to the doctor.

On examination, there is commonly found in severe cases, inflammation of all the mucous membranes of the genital organs, vagina, urethra, hymen, et cetera. Crusts are found on the labia from the drying up of the secretions and the discharge is thick and yellow. I have never used a speculum in such cases, but I have no doubt if I did I would find the inflammation extending to the cervix uteri.

We often attribute such discharges to the weakness of the child or to pinworms, and if we find by the history that the child has at some time had any of the specific fevers, or any disease of childhood, especially *measles*, the vaginitis is considered a sequela to those diseases. Some of us never ask the mother if she has or had a similar discharge or if other members of the family have gonorrhea. But I have often found that the parents of such children will deny it, whether so affected or not. Consequently I have refrained from asking such questions, but always make microscopical examinations of the pus to confirm my diagnosis.

The treatment of gonorrhea in children has been to me, until recently, a very hard task, and it often occurred to me that it is almost impossible to treat such patients at home. We have to send them to the hospital, and we did send most of our cases to the Children's Free Hospital. The treatment I employ is as follows: I isolate the child, taking all precaution to prevent her coming in contact with anything used by other members of the household. I order that all her clothing be cared for separately, and that she be cautioned not to touch the infected area with her hands and thereby carry the germs to other parts. I prescribe some tonic treatment for the child. Large doses of the syrup of the iodide of iron with cod-liver oil is my favorite, together with some antiseptic for a vaginal douche. I have used for the douche one of the following antiseptics: Bichloride of mercury 1–10,000 to 1–5000; icthyol one drachm to the quart; potassium permanganate, 1–10,000 to 1–4000; argentum nitrate in the same strength; boric acid, 1–1000 to 1–100; Platt's chlorides, one drachm to one pint; tannic acid, alum, zinc sulphate solutions and other astringents. Of these solutions I am accustomed to order that about two quarts be used three or four times daily. Warm baths are ordered every night, and with all this active treatment I am unable to check the disease in less than five or six weeks. Very often the mother, on account of the length of time required to effect a cure, the amount of extra work, care and attention necessary for such thorough treatment, which prevents her from attending to her regular household duties, and on account of the staining of her bedding and clothing from the silver nitrate and potassium permanganate, becomes discouraged. Owing to these annoyances it has been difficult to keep patients in many instances, and thinking that this slow and tedious process of treating the disease might facilitate infection of the lining of the uterus and eventually of the tubes, thereby causing pyosalpinx, et cetera (although it is claimed that such complications do not occur in children, but I have no doubt of their possibility), it has led me to seek for some other mode of treatment. I have looked patiently for some antiseptic that would expedite the disappearance of the gonococci from the discharge and so check the invasion of this terrible disease. Hearing so much about formaldehyde and its different uses as an antiseptic, I recently decided to give it a good trial in a series of cases of gonorrheal vaginitis, and see what results I would get. I proceeded as follows: I put the patient to bed, omitted the tonic treatment and in a few cases used an irrigation of formaldehyde solution by means of a fountain syringe, attaching a small soft rubber catheter for small children, and a small sized fountain nozzle for older ones, twice daily, using two quarts at a time.

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* Read before the Wayne County (Detroit) Medical Society.

In the first case, a girl of six years, I used a solution of 1–2000, as I feared it might prove too irritating, but I found to my surprise that the patient tolerated it very nicely, although it is claimed to be very irritating in that strength. I continued the injections in this case by using 1–1000, which the patient was able to stand without pain.

In the second case I used it in the strength of 1–500, which caused the child to cry a good deal and led me to believe it irritating at this strength. I then decreased the strength of the solution to 1–1000. Not considering the child's crying as sufficient evidence of irritation, I tried 1–500 in an adult, who complained of much pain.

In the third case I again tried 1–500, and in order to allay the irritation I added one ounce of glycerine to the quart, which rendered the solution satisfactory. Whether the glycerine or the secretions from the vagina protected the mucous membrane from irritation I cannot claim, but in my following two cases I used formaldehyde, a teaspoonful to the quart of the solution, with the above quantity of glycerine and have not had any complaints of the irritation.

All the cases submitted to this treatment have been demonstrated, microscopically and clinically, to be cases of true gonorrhea without any doubt, as in some of them the origin has also been traced. After the first week's irrigation, twice daily, with this solution, the gonococci disappeared from the discharge altogether. Such results I could not obtain from the use of the irrigations with the antiseptics mentioned previously.

In adults I use formaldehyde solution in the strength of 1–1000, for deep urethral irrigation. It has caused irritation during the process of injection, which ceased soon after. Argentum nitrate in the same strength has caused irritation, not only during the irrigation but for some time afterward.

In conclusion, I might mention that formaldehyde does not stain the hands or clothing as does silver nitrate and potassium permanganate; consequently such precautions are not necessary as in the use of the above mentioned drugs. I have carried for months stains of silver nitrate and potassium permanganate on my hands and clothing. The results obtained in these cases has demonstrated that the treatment of gonorrhea in children can be satisfactorily conducted by employing formaldehyde. It enables the physician to retain patients and prevent complications.

MODERN ANESTHESIA.*

By J. K. GAILEY, M. S., M. D., Detroit, Michigan.
ATTENDING SURGEON TO HARPER HOSPITAL, TO THE CHILDREN'S FREE HOSPITAL, AND PHYSICIAN TO THE HOME OF THE FRIENDLESS, ET CETERA.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY.]

CHLOROFORM and ether will hold vital importance in medicine and surgery until some new, more safe and practical anesthetic is discovered, and if they are ever supplanted, which I think is very probable from the rapid strides of science in every direction, they will always be gratefully remembered and honored for the good they have done.

General anesthesia has been the foundation upon which the present glory of surgery in many departments has been built. Local anesthesia has been made practical, in the meantime, for many kinds of operations, but general anesthesia is still an all-important factor to the surgeon and humanity. Naturally we would expect the surgeon whose skill, the delicacy and complexity of his operations, and the life of his patient, depends so much upon these agents, would consider their administration with *equal* importance; but alas, the importance of this fact has been lost sight of in the whirl of the ambitious operator, and this work generally assigned to the novice. This seems strange when every operator understands how very important it is, that while in the midst of an operation he is not interrupted by the patient struggling, straining or vomiting, from too little anesthetic, or by the alarm of death symptoms from overdosing or mismanagement. The surgeon's best work can only be attained when he has his mind and muscles absolutely free to think and act. The anesthetizer, therefore, should be practically and scientifically prepared to do his work, in harmony, of course, with the operator, but independently and capably assuming all responsibility regarding the anesthesia, watching the patient and the progress of the anesthesia only, while the surgeon operates uninterruptedly with the best possible results. This is in harmony with the true science of medicine and surgery, and when we deviate from it, except in justifiable emergencies, we commit a criminal offence. If we do not hasten these precautions we will be humiliated *some* day by having the law interfere.

We have only to review our individual experience and the past statistics, to see how carelessly this work has been done to realize how many lives have been unnecessarily lost, and how little the patient's feelings have been considered. The percentage of deaths from chloroform and ether, as it stands today, is far from being correct, because of all deaths a doctor should report these are the hardest, and many have occurred that were never reported; but whatever it may be, it is more due to the method of administering these agents than to the agents themselves. From what I can gather this death rate has been gradually decreasing, and more markedly so in the United States than elsewhere. This decrease must and will continue until, at least, all blame is taken from the doctor, for the medical profession is becoming properly interested in the subject. Already there are specialists, "Anesthetists," in some of our eastern cities and the cities of Canada. While I think there is room and necessity for such specialists in every city, I believe it is more important that theoretical and practical anesthesia should be taught in every medical college, and that no student be allowed to graduate who is not as well qualified to give an anesthetic as to attend a case of obstetrics. The only place of which I know where anesthesia is taught as a special subject is at Philadelphia, Pennsylvania, in one of the Polyclinics, and at New York City in the Hospital for Ruptured and Crippled. There may be others, but all told the number is most limited.

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*Read before the DETROIT ACADEMY OF MEDICINE.

We have always been careful to use chemically pure agents for the benefit of the patient and in self-defense, so ought we not, for the same reasons, have a care over the manner in which the agents are administered? As it is necessary that the students have a thorough understanding of the properties of the agents used, their effect upon the system and how they are eliminated, so also is it necessary that he should have given him a classified accumulation of facts from practical experience and investigation regarding their administration. This classified accumulation of facts makes the vantage-ground of the graduate of today, compared with our day; and it is just as important in this subject as in appendicitis, ovariotomy or any other of the all-absorbing subjects. It has been the practice that anyone can give the anesthetic—the undergraduate, the nurse, the by-stander, or anyone willing to sacrifice his time and energy from witnessing or assisting in the operation; first, the operator; second, the honored and paid assistant; third, the second assistant and so on until last the anesthetizer. Modern methods would have it thus: first, the operator; second, the honored and paid anesthetist; third the first assistant; fourth, the second assistant, and so on down, it does not matter, even to the admiring audience. To be chosen to give the anesthetic should be the highest honor the operator can bestow upon one in connection with any operation. And in addition, as the people become cognizant of the danger in taking an anesthetic, this to the patient, therefore, will form a very important part of the operation; so much so that the successful anesthetist will be welcomed and sought after with as much interest as the successful operator.

The choice of anesthetizer by the operator should be an expression of faith on his part that the anesthetizer will try to bring about, within the bounds of safety to the life of the patient, the best conditions for a successful operation, without being subjected to more commands or suggestions than he would like to have made to himself regarding his own work. I have many times heard the operator, while working at some particular point, and the patient strained or moved a little, utter the imperious command—"Give more anesthetic," when he knew no more about the conditions or progress of the anesthesia, than the anesthetist knew about the operation. Already the anesthetic had been added, or was being added, and with fear and trembling I have seen the timid anesthetizer, in these conditions, add still more—enough to kill oftentimes—and always to produce the evil effects of an overdose. It would be no more absurd or impolite, if, during the operation, an artery should spurt and the anesthetizer should shout—"Tie that artery." Again, this lack of faith is apt to lead the operator into embarrassing conditions by not heeding the anesthetizer's warnings. An often-told story, although it may not be true, illustrates the significance of this fact most extravagantly, and I will relate it. A young doctor while giving an anesthetic, warned the operator several times that the patient was doing badly. At each warning the surgeon glanced up for a second, made light of the young doctor's alarm, and continued his operation. At its conclusion the surgeon, recalling past impressions, asked, "Doctor, how is the patient?" "She has been dead for the past five minutes," came the brief reply.

The responsibilities of the anesthetizer are undoubtedly grave, but he ha no right to shift them upon the operator. The modern anesthetist will assum all these responsibilities with acute conscientiousness and watch the progress o the anesthesia with his greatest concentration of thought and perception. To much stress cannot be put upon this fact, for he should be totally oblivious t all that is going on about him, except his duties, and I would even recommen to enforce attention and educate, that, in hospitals and clinics, a sign be place where all can read, bearing this request: "Do not disturb or talk to the anesthetist while giving the anesthetic." No one can deny that momentary interruption may be the fatal moment to the patient, and who would be to blame? No one? Perhaps it may have been one of those peculiar conditions of fate, wherein everything was done that could have been done, and the death certificate was signed heart failure. However explained, such scenes will haunt the participants for many a day. It is unscientific and borders too closely upon the old ideas of foreordination and predestination to think that we can administer these agents carelessly and when death occurs soothe our consciences by thinking and saying it was inevitable.

The anesthetist should only alarm the surgeon when there is real danger. Then his warning should be heeded, and each sharing the responsibility work to save the patient's life, regardless of the successful operation, until they are sure the patient can appreciate it, too. It seems strange that through all these years, so much stress has been put upon the operator and his beautiful, successful operation, and so little upon the thread that holds the patient's life. However, the time is at hand when the trained anesthetist will demand the respect he deserves from the operator, the patient, and all concerned, and when all concerned will demand a trained anesthetist. Technical training is an aid to growth, but experience teaches that which nothing else can, and these, together with the innate qualities, develop the specialist.

The anesthetist must be kind but firm, and possess the qualifications of an orator, to gain the confidence and calm the fears of the nervous patient. He should be a careful observer with quick perception to detect the variation of symptoms of the patient from the beginning to complete anesthesia; the variation of symptoms of different patients, with different physical conditions and temperament, under the same anesthetic; to know the characteristic symptoms produced by each anesthetic, and to observe at all times and in all conditions, the danger signals. He should possess good judgment with decisive action, always calm and collected, to carefully consider and classify all these conditions and symptoms, that he may act wisely and quickly. He must also be a good diagnostician, and when one, exercise his powers in deciding *what anesthetic is best to use in each individual case.*

Chloroform and ether, separately, or in combination known as the Vienna mixture; or in combination with alchohol forming the A. C. E. mixture; or with petroleum ether known as Schleich's solution; or separately with oxygen gas; or with nitrous oxide gas, form the present list of agents to choose from, to produce general anesthesia. The time is past, when it is wise to say that one agent can be safely used to the exclusion of all the others. The time is also past when it is wise, as it has *never* been scientific, to have our preferences and use one agent generally, and only occasionally one of the others. This is habit, not science, and in a great measure depends upon our limited education on this subject and the customs of the physicians in the locality in which we have located. For example, until the past few years, I very rarely gave any anesthetic than chloroform. In Germany the mixtures have the preference. In our eastern cities ether, in the West and South, chloroform, and so on, in each locality there is a preference for some one agent. Thus the young doctor starts out, falling in with the custom of the place, and unless something startling occurs, he uses what he has been accustomed to, without giving the subject very much thought. This preference for one agent has done much to retard and exclude a theoretical and practical knowledge in the administration of all these agents. When our medical graduates are required to possess this general knowledge and experience, their preferences will be less strong, not growing into prejudice, and they will exercise better judgment than we have in the choice of the anesthetic to be used in each case.

The first step in the choice of an anesthetic, should be a thorough physical examination of the patient by the operator and anesthetist. I say a thorough examination, for the average examination made, if made at all, oftentimes not, bears no relation to thoroughness. They should learn the condition of the heart, lungs, kidneys, alimentary tract, the nervous system, the state of nutrition, what special effect the disease in question has had upon the vasomoter system and the muscular system, and then together decide what anesthetic is most safe and best to use in that particular case. This precaution forms just as important a part of the operation as any one of the many details observed by modern surgeons. All this requires time and energy, and I am sorry to say that I have many times known convenience to decide which anesthetic was used.

After the physical examination our choice must now depend upon the following conditions: safety, the least disagreeable to administer, the best calculated to produce muscular relaxation, producing the least ill-effects, and best adapted to the prevailing characteristics of the patient. Safety is the first and all-important element, and the highest degree of this can only be reached when the anesthetic used, has been chosen according to the principles stated and when scientifically administered.

The comparative safety of these agents can only be obtained from statistics, but statistics to be of real value, must be gathered from cases wherein the anesthetic has been chosen and given scientifically. Our present statistics are very incorrect, but they are valuable for as they agree or disagree with our individual experience, we become educated and interested in what should be much more quickly than without them. To illustrate this fact, I will give a few figures taken from the statistics of GAULTH, as a result of a collective investigation of the German Surgical Society of Berlin, and as reported in the *Medical Record.* The number of deaths during the five years, from 1890 to 1895, from chloroform was eighty-eight out of 2,286 cases; from ether, seven deaths out of 6,020 cases; from chloroform and ether combined, one death out of 10,162 cases; and from chloroform, ether, and alchohol combined, one death out of 5,744 cases. Here we have an illustration of a frightful mortality in the use of chloroform. In some of the hospitals in England, for a shorter time, a greater mortality than this has been reported. If these statistics were correct, or rather if they were taken from cases wherein the anesthetic was correctly given, I would never take the chances in giving chloroform again. I do not doubt but that these figures are correct yet they disagree so with my individual experience that they illustrate most emphatically how carelessly the agent has been administered. We cannot infer from the remaining figures of these statistics that ether and the combinations were given so carelessly, but this is true—the death rate during the administration is greater from chloroform than from ether and the combinations when given carelessly. My experience, however, has led me to believe that, when chloroform is administered properly, it is equally as safe as ether and the combinations. Again, there is a death rate to be added to ether and the combinations that is not included in any statistics that we have at present, namely, deaths from pneumonia, bronchitis, nephritis and indirectly, fatal conditions from vomiting. How much these cases, if reported, would change the present statistics, I cannot say; it would certainly make a great difference.

Beyond the question of safety, chloroform is the most agreeable anesthetic to administer, produces the most satisfactory relaxation of the muscles for the most delicate and complicated operations, is followed by few ill-effects, and is equally adaptable to the various characteristics of the patient. For ether we must consider the question of safety, and set aside the disagreeable features in administering, and the evil effects that follow. Many efforts have been made to relieve the patient from the disagreeble sensations while taking ether. The latest and most practical is the use of nitrous oxide gas. The patient is first anesthetized with the gas, and while in this state, the ether is quickly and rapidly given, to complete anesthesia. Thus the patient escapes the disagreeable sensations in taking the ether, and the claim is advanced that there is less mucus, less nausea, and no exciting stage. Twenty-five per cent. nitrous oxide gas is sometimes given with ether and with chloroform, in extremely weak patients, thereby maintaining the anesthesia with as little anesthetic as possible. Oxygen gas is given to stimulate and hasten elimination. It has been claimed that it modified the ill-effects of ether to a marked degree but it failed to be of sufficient value to obtain vogue. The Vienna mixture, chloroform one part and ether six parts, was considered valuable and safe because each agent modified the effects of the other. And so in the A. C. E. mixture—alcohol one part, chloroform two parts and ether three parts—there was the addition of a stimulant, another advantage. These mixtures have been very extensively used with wonderfully good results. The *real* explanation of their value and safety depends, very probably, upon the principles worked out by SCHLEICH, in his experiments, namely, adapting the boiling point of the narcotic to the temperature of the body. He reasoned that the absoption of a general anesthetic is dependent on the surrounding temperature and the boiling point of the anesthetic. If a person inhales an anesthetic, having its point of maximum evaporation approaching the temperature of the body, the lungs eliminate as much during expiration as was inhaled during inspiration, and therefore complete narcosis does not take place.

The maximum evaporation point of chloroform is about 142° Fahrenheit, therefore more is taken in by inspiration than is eliminated by exhalation, narcosis is produced, and the surplus chloroform must be eliminated in some other way. Therefore, the object sought by SCHLEICH was to get an anesthetic whose boiling point approached so near the temperature of the body that the amount eliminated by expiration would almost equal that absorbed by inspiration. The maximum evaporation point of the A. C. E. mixture is about 120° Fahrenheit, and of the Vienna mixture about 106° Fahrenheit, much nearer the temperature of the body than chloroform. This, too, corresponds with the statistics I gave, the Vienna mixture having the best record and the A. C. E. mixture the next. This explanation came long after the success of these combinations had been established. So on the same line of reasoning we have Schleich's solutions. He has three, made up by volume, as follows:

NUMBER ONE.

℞	Chloroform, ...	℥jss
	Petroleum Ether, ...	℥ss
	Sulphuric Ether, ...	℥vj

NUMBER TWO.

℞	Chloroform, ...	℥jss
	Petroleum Ether, ...	℥ss
	Sulphuric Ether, ...	℥v

NUMBER THREE.

℞	Chloroform, ...	℥j
	Petroleum Ether, ...	℥ss
	Sulphuric Ether, ...	℥ij⅔

He claims that these combinations are not merely mixtures, but chemical solutions.

All reports that I have seen of the use of these solutions, especially number one, are very good. The principal features as compared with ether and the combinations are, less accumulation of mucus, less excitement, fewer cases of albuminuria, no cyanosis, the pulse is full and often strengthened, respiration is the main index to administration, and the rapid recovery of sensations after the operation.

This is the latest addition to the list of general anesthetics. I think the theories that have brought it to light are good and scientific. We should familiarize ourselves with it, for I believe it will remain upon the list as one of the best anesthetic solutions. The success of all these combinations depends upon the principle (as evolved by SCHLEICH) of giving the patient, as nearly as possible, no more anesthetic than is necessary to produce the required anesthesia. *This is the all-important factor in the administration of all anesthetics.*

We should be glad to add worthy agents to the list of anesthetics that we may have a greater power to meet the infinite complications we find in patients. It is time to awaken and free ourselves from the power of habit and indifference, and choose our anesthetics with the same care that we choose our medicines in the treatment of disease. We have no one agent that should be used generally, therefore a wise choice should be made in every case. Carelessness in the choice of an anesthetic and carelessness in its administration has to answer decidedly for a large percentage of our present death rate. When the surgeon chooses his anesthetic and his anesthetist with as much care as he chooses his ligatures and antiseptic precautions, we will be approaching modern anesthesia, and furnish statistics that will be an honor to the profession.

LACERATION OF THE PERINEUM.*

BY WALTER J. CREE, M D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

LACERATION of the perineum is a subject that is very important to the general practitioner, and the specialist has scored him for not giving this subject sufficient attention, and yet, like OTHELLO, the specialist's occupation would be gone, at least as far as the perineum is concerned, if lacerations always received the proper attention at the time of confinement. Lacerations are divided for the purposes of study into three classes.

(1) Nicks or slight tears involving the fourchette and usually occurring in primiparæ.

(2) All tears that do not divide the recto-vaginal septum. These tears include transverse ones just within the orifice of the vagina, longitudinal tears, and a combination of both.

(3) These tears are those that extend through the sphincter ani and involve more or less of the recto-vaginal septum.

I have frequently talked with physicians who claimed that in a large obstetrical practice they had never seen a lacerated perineum. I have always taken such statements *cum grano salis.* The only way to determine the presence of a laceration, its location and extent, is by ocular examination and in a bright light. The finger should be introduced into the rectum and the posterior wall of the vagina everted and the vaginal mucous membrane carefully examined.

It is hardly necessary to go into detail as to the frequency of lacerations, but to consider the fact that they do occur even in the practice of the most skilled in the obstetric art. I shall confine my remarks, therefore, to outlining some methods of prevention and will aim to be very brief.

In regard to the posture of the lying-in woman during the second stage I am inclined to let the patient assume any position that she desires, but I am growing stronger in my belief that the lateral position toward the close of the second stage is the best one, especially if a laceration is feared. The descending head is the best agent to dilate and soften the perineum. Some writers recommend drawing back the perineum so as to tire out the perineal muscles, but it seems to me that this procedure might destroy the natural elasticity of the parts, and render them soft and more liable to laceration. I liken it to a rubber band that has been unduly stretched, becomes dry and tears very easily. Another method is introducing the finger into the rectum and drawing it forward in the manner with which we are all acquainted and recommended, I think, by GOODELL. When the finger is drawing up the perenium the thumb is pressed against the advancing head. I have thought this method open to objection on account of the possible chance of conveying septic material from the rectum into the genital tract. HOHL's method, recommended by OLSHAUSEN, consists in applying the thumb to the occiput and the first and second fingers on the presenting part nearest the posterior commissure, which procedure, it is said, favors rotation of the head under the pubic arch. Some physicians recommend delivering the head between the pains, but I have had no success with this procedure. Rectal expression: By introducing two fingers into the rectum —hooking them into the mouth or under the chin—and then pressing the face forward and upward, delivery, it is said, can be at the will of the operator, providing this method is used between pains. RITGEN recommends pressing the tips of the fingers upon the perineum behind the anus and near the coccyx, thereby lifting the head upward and forward through the vulva. It can only be applied when the head is very low so that pressure can be applied on the frontal region.

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* Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

There are various other procedures recommended by different writers, but enough has been said to illustrate the important methods. It should not be forgotten, however, that the safe delivery of the head does not end the matter, as a very slight nick may be converted into an extensive tear by the shoulder, and the shoulder should be supported until it clears the vulva. I believe the head should be supported (and by doing so the perineum is protected); that the lateral position gives a better chance to avoid laceration; and that the administration of chloroform, especially in cases wherein the perineum is rigid, is the best procedure, at least this has been my experience. I have also noticed that dark-haired women are more liable to rupture than light-haired women.

SURGICAL TUBERCULOSIS OF THE SKIN AND OTHER EXTERNAL ORGANS.*

BY E. B. SMITH, M. D., DETROIT, MICHIGAN.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

THE most important external organ of the body is the skin. This is frequently affected with diseases of a tubercular origin, such as lupus vulgaris, scrofuloderma, verrucosa cutis and an innominate tuberculosis of the skin of two varieties—primary. and secondary. The chief diseases which may be mistaken for any of the above affections are syphilis, epithelioma, furuncle, and anthrax. The certainty of the diagnosis, of course, depends entirely upon the presence of the bacillus tuberculosis. No physician therefore should be long in doubt regarding the nature of any tubercular skin affection. Syphilis may complicate tuberculosis, and make the diagnosis a trifle puzzling, but in almost every case wherein syphilis occurs a distinct history of such affection may be obtained if care is observed to question the patient very closely. Nocturnal pain in bones of the skull, and in the tibia and sternum is a prominent symptom, and should arouse suspicion, always, of specific trouble.

The surgical treatment of tuberculous diseases of the skin narrows itself down to such simple procedures as curetting, scraping, or—better and more scientific—excision of the affected portion followed by flap or skin-grafting, and this procedure is limited almost entirely to one disease, lupus vulgaris.

The tubercular affections of the vulva and the scrotum are somewhat rare and in this short paper need find no place as they are in nearly every case incurable.

Tuberculosis attacks nearly every structure of the eye—the choroid, the conjuntiva, the iris, and the lids, appearing in the latter region in the form of lupus usually. Tuberculosis of the choroid is perhaps always secondary to tuberculosis of the meninges of the brain. Diagnosis is made by the ophthalmoscope. Small, round, whitish or yellowish spots are situated near or surrounding the optic nerve, each of which has a halo of a reddish color, different from the ordinary red of the fundus. They are to be differentiated from sarcoma and choroiditis. The chief diagnostic features are: (1) The round tubercle; (2) absence of pigment; (3) prominence of the tubercles. Enucleation of the affected eye should be performed when the deposit perforates or threatens to perforate the choroid. Tubercle of the conjunctiva may occur primarily. In order to establish a diagnosis bacteriological examination is necessary. The treatment consists in the destruction of all the diseased tissues by the knife, curette, or galvano-cautery, after which aristol should be applied daily, or iodoform emulsion. Tubercles occur on the iris as multiple grayish-colored growths and are perhaps always secondary. Iridectomy or even enucleation of the eye should be performed according to the size and amount of growth.

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*Read before the WAYNE COUNTY (Detroit) MEDICAL SOCIETY.

The ear and the nose are also affected secondarily by tuberculosis. Two or more perforations of the drum membrane of the ear should create suspicion of tuberculosis, and is said to be a serious condition.

Besides the diseases named there is a tubercular ulceration of the rectum and anus which in some respects resembles tuberculosis cutis. There are two varieties—one due to the actual presence of the tubercle at the seat of ulceration, the other a simple ulceration in a person of tubercular diathesis. I will describe only the former. It has a pale red surface, covered with serum, is shiny, but there is no surrounding inflammation (in this respect it differs from tuberculosis cutis) and granulations are absent. It spreads in depth rather than horizontally. There is no great pain. It runs a chronic course. Microscopical examination will establish a diagnosis. Extirpation must be performed early to be of any benefit. The ulcer must be excised or destroyed by cautery before general symptoms of tuberculosis are manifest, otherwise treatment is without avail.

TRANSACTIONS.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, MAY 24, 1898.

THE PRESIDENT *pro tempore*, R. W. GILLMAN, M. D., IN THE CHAIR.
REPORTED BY H. D. JENKS, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR HEDLEY WILLIAMSON read a paper entitled "A Case of Obstetrics, with Albuminuria." (See page 496.)

DOCTOR MANTON: I am sorry there were not more present to listen to the paper, for the subject is one of the most important that comes to the general practitioner. This is an interesting case. It is a question when the induction of labor is permissible and desirable in the interests of mother and child. Though the occurrence of eclampsia is not common, yet I have seen quite a few cases in consultation and in hospital practice. I have had but one in private practice and that recently. The cases wherein there is a small amount of albumin are the puzzling ones, for some of the cases have no kidney lesion at all, in fact present no pathological lesions whatever. Many cases of albuminuria wherein there is two per cent. by volume of albumin will have a normal delivery and no elcampsia, while the convulsions may appear and there be no albumin. We should not interfere until serious symptoms arise, namely, anasarca, persistent headache with ocular trouble, et cetera. Then first try hot air baths and salines. If these fail then induce labor. The termination of these cases is a sad one. I have seen a number of deaths from eclampsia in spite of energetic treatment. At best they are trying and worrysome. One point in treatment.

I have heard it stated that the injection of saline solution into the blood would always save the patient, but from the various pathological conditions present it is evident that saline solution will not help all cases, but only those of renal insufficiency.

Doctor Wyman: The paper is an interesting one and has pleased me much. I have long felt that the really serious condition was a small amount of albumin occurring for a long time. It is always a good sign to see the solids increasing in the urine before an operation for the increased specific gravity means a decrease in the albumin. Many have thought that the amount of albumin was not serious, and in fact recovery is more frequent when the albumin becomes solid on boiling than when a small amout continues a long time. The specimen of urine should be tested with heat and nitric acid and then be allowed to stand for some time to get the full amount of albumin. It is a fallacy for a man with but limited experience to tell how his line of treatment will never fail because it never has failed with him. Some will recover no matter what is used provided poisonous doses are not given.

Doctor H. D. Jenks: A few years ago I was in a position where I made routine examinations of a very large number of urines from women who were in labor. A small percentage of albumin was present in the majority of the cases; yet eclampsia was rare. The albumin cleared up almost at once on the termination of labor. It was therefore not considered alarming to have a simple albuminuria without other symptoms of threatening eclampsia. A diminution in the quantity of urea excreted in the twenty-four hours was regarded as an alarming condition and the attempt was made to increase this in a number of cases of threatened convulsions with happy results. The quantity of albumin is then of value as an indicator of diminished excretion of solids only. I remember one patient whose urine contained but the faintest trace of albumin, but she developed eclampsia in the second stage of labor, and in spite of energetic treatment died eighteen hours later. Postmortem examination failed to reveal any pathological condition to account for death either in kidneys or brain. Severe epigastric pain or a persistent headache or both occurring in the later months of pregnancy, either with or without albumin in the urine, needs attention at once to prevent a possible eclamptic seizure.

Doctor Williamson: It is not so much the amount of albumin as its presence as an indicator of the amount of urea retained in the system that is important. Pain in the epigastrium is an important symptom.

REPORTS OF CASES.

Doctor Manton reported a case wherein a few months before a woman had been given local treatment for ovarian and tubal trouble with some improvement. A little later she became frightened, developed tachycardia, and had a temperature at night. Examination of chest was negative. Miliary abscesses of the ovary were suspected and an exploratory laparotomy was made. Nothing found beyond a catarrhal condition of the appendix with a little pus in it. She became delirious after the operation and continued so until she died. The autopsy showed nothing wrong with the organs. Probably it was a case of profound neurasthenia which led to the supposition of the presence of pus.

STATED MEETING, JUNE 14, 1898.

The Vicepresident, A. B. LYONS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor J. K. Gailey read a paper on "Modern Anesthesia." (See page 507.)

Doctor Carstens: This is an interesting, exhaustive and proper paper. Most of the statements I can endorse. Yet there is a limit in the choice of the anesthetic. A man who gives ether cannot give chloroform well. There should be a regular course of instruction. I was raised on ether, but now use chloroform almost entirely, for I believe that many die from ether from secondary nephritis and pneumonia, and this rarely happens from chloroform. About twenty-five years ago I employed the mixture A. C. E., but rather than elect this now, I would use them separately, changing from the one to the other. The operator should control the anesthetist as he is responsible for both operation and condition of the patient. He can tell whether the patient needs more or less better than the anesthetizer. I suppose I have employed anesthesia five thousand times and have had only two die on the table—one from weakness and one from too much anesthetic. I have operated when there was valvular trouble of the heart without any disturbance. I think there is something back of the heart—in the brain or nervous system—that causes death.

DOCTOR CHITTICK: In my experience any pregnant woman can take chloroform well if she is toward full term. We need more practical instruction along this line.

DOCTOR WYMAN: I have had unfortunate results from the use of anesthetics. Yet we ought not to say that every death during an operation is due to the chloroform. Many conditions, especially dislocations, cause death during their treatment whether an anesthetic is given or not. I believe that in this climate there is less danger from chloroform alone than from the mixtures. My belief is that physicians should be much more cautious in ascribing death as due to the anesthetic, for it is often impossible to find the cause of death in individuals who have never taken any anesthetic at all. So far the investigations as to the relative safety of the drugs used has not been satisfactory.

DOCTOR THADDEUS WALKER: The importance of instruction, during the college course, in the use and methods of giving anesthetics is great. The young man usually has to pick up this knowledge himself.

DOCTOR BIGG: This is a subject of profound interest. DOCTOR CARSTENS has vividly pictured the sensations experienced by the physician when calling in the relatives to witness, not the restoration to health and vigor, but the reverse. It is a fearful responsibility and he has to explain what he knows very little about when the patient dies under the anesthetic. I need hardly say that I was interested in the paper. The author has used judgment and acumen, and the points insisted upon are salient—thorough instruction in the art and science of anesthesia. It has been made clear that more chloroform is taken in than is expelled. Why, then, using a pure article, does not the retained chloroform unite with unknown substances in the body and so produce death?

DOCTOR MANTON: I have never had a death from anesthesia, but I feel more afraid of it than I do of the operation itself. I believe the importance of the anesthetist is next to the surgeon himself. I was brought up on the use of ether as a student. In Vienna I first saw chloroform used. From my own experience I prefer chloroform to ether. Yet there is a difference in individuals in regard to the action of the anesthetic, an undesirable quality to the pulse, such that you can tell before hand when it is to be dangerous. When the patient is only partially anesthetized, more danger exists than when wholly influenced. I had hoped the doctor would demonstrate the use of his new inhaler. I approve of having lectures as to the proper methods to use in giving anesthetics.

DOCTOR AARON: It is always a pleasure to watch the doctor give chloroform, and what I know about the subject I have learned from him. The responsibility should rest definitely on some one and the anesthetizer should examine the patient before operation. The cause of death in most cases is not enough chloroform with a reflex stoppage of the heart, or an excess when there is paralysis. The principles of anesthesia are taught every one of the four years in the Detroit College of Medicine. The teaching of this branch has changed in the last few years.

DOCTOR EMERSON: I have but a word to say in appreciation of the paper. It is unquestioned that there is a lack of proper attention in teaching anesthesia. The point has been assumed that deaths from chloroform are almost always due to heart paralysis, yet it seems to me that most are due to stoppage of respiration. I can recall several cases wherein respiratory trouble seemed to be the whole cause.

Doctor Hitchcock: This is an important and carefully prepared paper, and we have all enjoyed it. Much money and time has been expended in trying to find out which anesthetic was the best, and even now it is not decided whether the cardiac or the respiratory trouble is the important one.

Doctor Cobb: Schleich's mixtures are now the favorite ones. I think that most doctors, if they were compelled to take an anesthetic given by a young doctor, would not hesitate long over the choice of ether. The pneumonia and nephritis cases following the use of anesthetics are now generally believed to be infective ones. Abdominal surgeons seem always to be unduly afraid of the kidneys, yet the desquamative nephritis is due to infection pure and simple. If an anesthetic is to be given a long time, ether is the safer. There are plenty of men, notably, **Price** and **Tait**, who will never have a doctor give anesthetics for them. Since 1879 the Marine Hospital service has had but two deaths from anesthesia. Here the operator is made the responsible person.

Doctor Lyons: The whole subject needs to be studied not empirically but scientifically. There is a good deal to do before it shall be on a scientific basis. A mixture of chloroform and ether is not the same as either separately. When added, there is an elevation of temperature and a lessening of volume, almost a chemical change. In analytical work we use chloroform and ether. The chloroform is more solvent. A mixture of one part of chloroform to three of ether is almost as efficient as chloroform and yet has the power of ether.

Doctor Gailey: My paper seems to have more value than when I started it. I cannot agree with the statement that a man who gives chloroform well cannot give ether. The operator should choose his anesthetizer and should also be commander-in-chief, yet they work together. We do not have proper means for the teaching of anesthesia. Experience and facts collected should be taught to have the subject properly understood. The nurses who give the anesthetics are practically specialists.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, MARCH 31, 1898.

The President, LOUIS E. MAIRE, M. D., in the Chair.
Reported by J. H. SANDERSON, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Polozker read a paper entitled "Management and Treatment of Vaginitis in Children." (See page 505.)

Doctor Hislop: Cases of this kind are frequent and stubborn. As a rule, mothers are too careless and neglectful of their children.

Doctor Warren: The matter of cautioning patients against the danger of infection is of vital importance.

Doctor O'Donnell: I like the catheter for treating vaginitis in children. Internal medicine is necessary. I like peroxide of hydrogen for the local treatment. This remedy promptly effects a cure.

Doctor Aaron: While city physician I treated a case for vaginitis which was due to pinworms. The inflammation promptly disappeared on the use of rectal injections of aloes solution.

Doctor Maire: It is important that all patients be cautioned about handling the affected parts. I have in mind a physician who lost an eye by infection from a patient he was treating. I recently had two cases of gonorrheal ophthalmia, both of which made good recovery. My treatment is cold antiseptic applications and solution of silver nitrate four grains to the ounce of water.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 30, 1898.

THE VICEPRESIDENT, EDWIN G. KNILL, M. D., IN THE CHAIR.
REPORTED BY P. C. McEWEN, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR HENEAGE GIBBES read a paper entitled, "Some Points in the Development of Carcinoma Which Should Be Considered When Endeavoring to Arrest Its Growth." (See page 281.)

DOCTOR ROBBINS: The doctor's paper, together with the stereoptican views illustrating the different kinds of carcinomatous growths, have been very interesting to me. From a practical point of view, as regards operations, it seems to me most important that the surgeon should consider the fact that patients with slow growing carcinomata have usually better opportunities for living longer without operative procedures than if an operation is undertaken. I recall the case of a patient who had consulted DOCTOR McGRAW two years ago for a carcinomatous condition of the breast. At that time it evidently impressed the doctor that the cancer was of the slow growing variety and he advised against operative procedure. A year after the woman fell into the hands of a charlatan who put on a plaster and succeeded in removing a portion of the growth, but it began to grow rapidly again and death occurred a short time afterward. Slow growing carcinomata are better left untouched.

DOCTOR MANTON: My experience is entirely clinical. It seems to me that the doctor has brought out the subject and presented the different varieties of cancer in a way that I have never heard it explained before. Clinically I believe that as soon as the diagnosis of malignancy can be made it is wise to get rid of the growth by surgical means. I have seen many disastrous consequences following delay in these cases. While, as DOCTOR ROBBINS says, in certain instances such things might be left with safety, I do not see how we are able to judge when such cases should be left. I believe total and thorough eradication is advisable.

DOCTOR OBETZ: I have been very much pleased with DOCTOR GIBBES' paper of this evening. I think his presentation of the subject from a pathological standpoint is beautiful. I think it will explain a good many things not understood by clinicians many years ago. I have in my possession a book written one hundred years ago noting the difference in epitheliomata, not with regard to their structure, but in regard to their clinical course and history. The author pointed out the only treatment that he knew at that time that would cure a local sore, that is, taking the two varieties and giving clinical instances. The treatment of these different varieties of epitheliomata is certainly a very interesting one. We all of us feel many times that we should do something for a patient who comes into our hands—one that will not allow us to operate. Some years ago a physician named MITCHELL, living in Chicago, in order to meet this clinical feature investigated the therapeutics of all time to find out any and all remedies that were reputed to have cured cancer. He found that the only remedy that could be said to have a favorable action on cancer was arsenic. He then began the use of arsenic and made it clinically useful. By taking an epithelioma on the face, for instance, and curetting it thoroughly, removing all discernible nests with the instrument, and then applying arsenic locally a number of successes were scored. He administered the remedy internally at the same time. Frequently patients would show the physiological effects of the drug. The action of arsenic when applied locally was necrotic. I have tried this treatment in a half dozen cases in my own experience with marked benefit. Aside from arsenic I do not know of anything that influences cancer a particle.

CORRESPONDENCE.

CAMP WIKOFF.

DETROIT, MICHIGAN, October 31, 1898.

THE writer of this article was on duty as a medical officer at Camp Wikoff, Montauk Point, Long Island, from the latter part of August until the camp was practically broken up in October. Concerning this camp he has some decided views. He considers the location perfect. Some of the reasons for this conclusion are as follows: Its position at the extreme easterly end of Long Island, some miles beyond any town, took away the danger of any contagion that might have come ashore with the troops from infecting any populous center. Also the narrowness of the point on which it was placed allowed free access to the cool breezes from the ocean at all times. Also the supply of water, from artesian wells for the troops, and from many small lakes or ponds for the horses, was entirely adequate and good. Also its nearness to a large city—New York being only four or five hours away—made it possible to get supplies of any kind without delay. Also the surface of the ground, gently rolling, covered with grass and free from trees, was suited exactly for a tent city.

Anybody visiting the general hospital there at any time would have had an experience something like this: He would have seen the patients brought in from the transports, about a mile and a half away, in the regular army ambulances. Those, able to walk, assisted to the wards to which they were assigned, others sicker, carried in on stretchers. He would have seen them assigned to beds which had good springs and absolutely clean sheets and pillow-cases. He would have seen each one given a bath and a bran new suit of pajamas. He would have seen his temperature taken and recorded. He would have seen the patient from the moment he entered the hospital tent looked after by women nurses and the regular hospital corps-men of the army. All this was under the direction of the surgeon in charge of the ward. Next he would have seen the surgeon get a history of the patient's illness, make the diagnosis and prescribe the treatment, all being written out in a blank book especially provided for this purpose. This book would be handed over to the nurse, who would extract from it the medication, diet and general directions for the different patients. Whatever the nature of the surgeon's work during the day, he always made one of the rounds of his ward about five in the afternoon, so that he could report to the senior surgeon at six. At this report all surgeons were present, gave the number of vacant beds, if any, in their wards, talked over any routine matter, received orders for the night and day following and turned in their case-books so that the general secretary and his clerks could make the necessary permanent records of the hospital.

The dispensary was centrally located and was very completely supplied with drugs, and even to a considerable extent with foods, such as canned soups, beef extracts, and so forth. Prescriptions or supplies of any kind were freely dispensed on an order from a surgeon. Occasionally one would find some particular drug out of stock, but in this particular it was exactly as one finds in the drug stores of his own town.

A system of diet kitchens furnished any number of liquid or soft diets. These were prepared scientifically by expert attendants, and did as much probably as any one thing to help the patients on to health.

Of diseases treated there were malarial fever, typhoid fever, diarrhea, dysentery, rheumatism, neuralgias, often from gunshot wounds already healed. Malarial infection often appeared as an intercurrent disease, especially with typhoid. This was particularly so in cases coming from Cuba. A number of patients were brought in in a comatose condition due to the nervous system being overwhelmed with malarial intoxication.

Concerning treatment, little need be said. In uncomplicated fevers much reliance was placed on a course of medication designed to sustain the strength of the patient accompanied by frequent sponging of the body with cold water and attention to the diet. In malarial infection the usual specifics—quinine and arsenic—were counted on to rout the disease. In those cases of coma, mentioned above, quinine in solution as found in Warburg's tincture, given in half-ounce doses two hours apart and only two doses a day, was found very efficacious. This meant about ten grains of quinine at a dose, or twenty grains a day. The results of the treatment in general, as shown by the mortality, was very good indeed. The percentage of deaths of those treated was a trifle over one per cent.

During the busiest time of the hospital some confusion was occasionally present by the arrival of an unexpectedly large humber of patients. A transport might start from Cuba with—say one hundred and fifty sick soldiers on board. During the trip north fifty more soldiers might develop a disease severe enough to send them to a hospital. When they arrived at Montauk Point, exhausted by their diseases and in many cases also by seasickness in addition, places had to be provided for them on shore. In sending convalescent soldiers to hospitals of neighboring cities, so that their beds might be used by the new arrivals, it sometimes happened that a patient, supposed to be convalescent, was in reality not so, and was not able to endure the journey to the neighboring city and had to be taken off the train at some station. Luckily this did not happen many times. When it did, it was one sick man inconvenienced to give aid and comfort to one sicker.

The work done by the women nurses was most important. It is safe to say that without them discomforts of the sick would have been increased many hundred fold and the mortality increased very considerably. They all were graduates of recognized training schools, and besides this had served in metropolitan hospitals. Their work was hard and the hours long, but they worked on undismayed, and had the satisfaction at the end of knowing they had done as efficient service for their country as anybody connected with the war.

The general atmosphere of the place was one of work and close attention to duty. Military discipline had necessarily to be much relaxed on account of the great number of visitors present, looking up relations and friends. The injudicious and hysterical appeared occasionally among these visitors and caused some anxiety to those in charge. Taken altogether, however, it seems to the writer that the sick soldier who came to cool Camp Wikoff, received both new pajamas and a clean bed, was looked after by a trained nurse under direction of an attentive surgeon, received specially prepared food and drink, fared as well as the average civilian who goes to the hospital of his choice to carry on his contest with some disease. DELOS L. PARKER, M. D.

EDITORIAL ARTICLES.

THE DOCTOR IN COURT.

IN this issue are clearly presented some of the phases of the doctor's role in court. His is by no means a strange figure there and yet his appearance is always an occasion for especial regard and comment. Even in his civic capacity he attracts more than ordinary notice. The professional badge lends importance and publicity to his affairs and to that degree also emphasizes the beneficent or pernicious influences emanating from his court-room experiences. His legal concerns are fraught with danger of loss not only of property but also of professional character. Reflections may be cast, suspicious arise, and distrust be begotten. Medicine and surgery cannot be practiced with absolute impunity though malpractice suits may usually be avoided by the observance of proper safeguards. The uncertainty of medical practice cannot be too fully realized. A promise of complete recovery in any case is as absurd as would be a contract to win a client's suit. Both patient and client are deserving of every honest effort in their behalf but the result cannot be absolutely foretold. If, unfortunately, a promise to cure has been made but unfulfilled the defendent is at the mercy of the court. Another safeguard too rarely used is in the sharing of responsibility. Independence is a noble and valorous feeling but a dangerous passion. Consultation or conference is by no means a confession of ignorance or censurable timidity but rather an indication of a genuine longing for truth.

To a few, expert testimony offers attractive inducements though the laurels sought are ofttimes dearly won. The faculty of submitting such evidence in a manner useful to court and jury is not universally possessed and for the confusion resulting the attorneys are as a rule equally blameworthy. No satisfactory remedy has yet been found for these abuses. Neither the French system nor the appointment of experts by the court are wholly beyond the possibility of error in the case and wrong to one or other contending party. Under our own democratic system there seems to be no other acceptable remedy than the mutual cooperation of court, attorneys and witnesses in the interest of truth and justice.

THE ANTAGONISM BETWEEN TOXINS AND ANTITOXINS.

THE antagonistic relation of toxins and antitoxins is no longer disputed. Concerning the nature of this antagonism there are two quite distinct views. One is that the action is physiological and indirect, the effect being produced by the operation of the antitoxin through the medium of the cells of the organism. This view has even experimental support. Animals injected with mixtures of poisons and their antitoxins have shown no symptoms, while others were killed by mixtures which, soon after being effected, had been heated to a degree that would annul the antitoxin. The conclusion drawn was that the interaction could not or did not take place in a glass but in the body only. Opposed to this view it is claimed that the action is chemical; that they neutralize each other much as an alkali affects an acid. While this position has been strongly maintained by BEHRING, EHRLICH and others, conclusive proof has not been adduced. Recent investigations by MARTIN and CHERRY*, however, furnish results that go far to establish the latter claim. By taking into consideration the influence of time and proportion of active masses of the mixtures their experiments yielded results diametrically opposed to those of CALMETTE, WASSERMANN and MARENGHI referred to above. In fact, by altering these factors they were able to produce different results. In order to prove their findings they left the mixtures in contact for two hours, after which they employed a Pasteur–Chamberlain filter to separate the two masses in case no chemical change had occurred. A test of the filtrate showed a decrease in toxic power which would not have been expected without chemical change. The influence of temperature they did not determine, but their results seemed to them conclusive evidence of a direct chemical action.

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* *British Medical Journal*, October 15, 1898.

ANNOTATIONS.

THE AFTERMATH.

It gives us considerable satisfaction to present in this issue a brief article by Doctor Parker on the conduct of Camp Wikoff. When consideration is given to the demand suddenly made for the care of so many invalid soldiers under the circumstances of threatening wider spread infection it seems marvelous, except in the light of modern medicine, that the results were so favorable. Now that the smoke has rolled away and the clash of arms has ceased to disturb our accustomed equanimity the efficient though unostentatious medical service during the war and after becomes with each succeeding report more and more apparent. It has all along been our conviction that time and tide would silence the hysterical cry and leave a restful calm and confidence in the powers that be.

AN IDEAL HEALTH RESORT FOR CONSUMPTIVES.

It was our pleasure and profit on the occasion of the last meeting of the American Medical Association to make the acquaintance of several of the generous and choice members of the profession in their own sublime surroundings and to note some of the magnifiicent advantages disposed by nature in portions of our western and southwestern country. The courtesies and kindnesses of our hosts in Denver, Colorado Springs and other parts of that wonderful state stimulated our already quickened sensibilities to an appreciation of the naturally healthful conditions there afforded, but it remained for Las Vegas Hot Springs to leave a strong and lasting impression upon our at once confused and receptive minds. This beautiful spot lies in the northern portion of New Mexico, on the eastern slope of one of the broken ranges of the Rockies, and is comprised within "the dry belt of the west." It is peculiarly protected on the north by a limb of the Rockies and on the northeast and east by the high hills of Gallinas Canon. These surrounding hills and mountains furnish a heavy growth of pine, piñon, cedar, spruce trees and smaller vegetation and effectually keep down the distressing sand-storms so common in many portions of the west. The altitude of this place is about sixty-seven hundred feet above sea level and accounts for the very moderate summer heat even in this low latitude. The mean annual rainfall is reported at twelve to fourteen inches and occurring as it does mostly during the months of June to September is said to also delightfully modify the heat of summer. Nothwithstanding the summer rainy season hardly a day passes, we are told, without some sunshine. The quality of this sunshine and the beauty of the sky can be better appreciated than described. The mean annual temperature is given as 50.1° Fahrenheit; for the summer months it is 67.8°. On account of the high altitude and the difference in temperature in sunlight and shade the nights are cool and invite sleep. The interesting fact was observed that some of the sickest inhabitants by preference remained out of doors through day and night, whether clear or stormy, and continued to do so, we were informed, throughout the year. In addition to all of these natural advantages Las Vegas Hot Springs has acquired others no less necessary though artificial. Happily conveniences, luxuries, intelligent medical assistance and attention, equally essential in all places, are there at hand. The consumptive who wishes to profit by the most favorable climatic conditions without sacrificing the accustomed comforts of home will certainly find there an ideal place for restoration to health and enjoyment.

WHAT BECAME OF ONE THOUSAND DOCTORS?

Much has been approximately said and written of what becomes of the hundreds and thousands of medical men after the lapse of several years succeeding their graduation. The proportion of notable successes has been apparently so small among the vast army of physicians that we believe the facts have usually been overestimated. An investigation of one thousand of the pupils of Sir James Paget made by himself and his colleagues, and quoted in a recent address by Cullingworth in the *British Medical Journal* is especially interesting as no other similar record of so many cases in which the facts are truly vouched for is known to us. Of the one thousand it is stated that twenty-three had achieved distinguished success; sixty-six, considerable success; five hundred and seven, fair success; one hundred and twenty-four, very limited success; fifty-six had failed entirely; ninety-six had left the profession; eighty-seven had died within twelve years of commencing practice, twenty-one of them from diseases incurred in the exercise of their professional duties; forty-one died during their pupilage, seventeen of them from phthisis. Explanatory of the first three classes it was stated that "distinguished success" meant the gaining of leading practices in large counties or very large towns, or the holding of important public offices or positions in large hospitals or great schools. Those had acheived "considerable success" who had won "high positions in the public services or leading practices in good districts," or who had gained a competence, or won "much more than ordinary esteem or influence in society." The third class included all those who had achieved any sort of real success. Although the percentage falls below the usual estimate it is interesting to note that about ten per cent. of the whole number forsook the medical profession for other pursuits.

CONTEMPORARY.

DISPENSING AND PRESCRIBING IN THE LIGHT OF EVOLUTION.

[THE CHARLOTTE MEDICAL JOURNAL.]

First of all let it be premised, many physicians from the character of their locations are obliged to dispense their own remedies. A large proportion of the physicians in the United States practice in the country. Many carry on their beneficent activity in regions far removed from a pharmacy. Among such there can be no choice. Medicines must be carried or afterward compounded when the physician returns from his rounds. To a certain extent also every physician must dispense his remedies, whether he reside in the city or the country. Emergencies will not wait upon the pharmacist, but require the instantaneous application of the indicated treatment. The prescribing physician who is dependent upon the pharmacist for his remedies is indeed but the outgrowth of a more complex social organism which seeks to limit the activity of each social unit to narrower spheres and thus improve the quality of the product. This is a fair statement of the law under which prescribing physician and pharmacist have come into existence as correlated and mutually interdependent quantities. It is but a fresh application of the doctrine of the division of labor so beautifully developed by Adam Smith in his "Wealth of Nations."

Unfortunately, however, this ideal relation, which in the past has liberated the physician from the drudgery of compounding medicines, while it contributed generously to the support of the pharmacist, is threatened with destruction because of an invasion of the physician's sphere by the commercial activity of the pharmacist. The latter has discovered that he cannot only compound the physicians prescriptions, but that he can also furnish a diagnosis and treatment to a largely increasing clientele. We must admit, of course, in extenuation of this invasion of the physician's legitimate sphere, that the druggist is often tempted thereto by his customer. But the yielding is none the less absolutely destructive of the relation of mutual dependence which called the pharmacist into being.

This is not the time to argue that the pharmacist should restrain his commercial activity within the sphere which the evolution of the social state has developed. The differences of training and the growing severity of State supervision of the qualifications for practice all presuppose that the sphere of the physician should not be invaded under the temptation of a mere commercial advantage. But it is fitting to state that inasmuch as this division of labor came into operation through a recognition of mutual advantage, so soon as it is apparent that it operates exclusively to the advantages of one party the old type of the dispensing physician will necessarily revive.

There is sufficient evidence that this is already taking place. Many physicians, who found the pharmacist a useful adjunct to his professional labor, so long as the latter kept within his proper sphere, have revived the practice of dispensing their medicines. And as if the progress of art had been accurately timed to enable the physician to redress the balance which a too eager commercialism had impaired, the tablet preparation came into being at a moment when the busy practitioner seemed almost helplessly dependent upon the pharmacist.

In conclusion it may be said that the distribution of the two offices typified by the physician and the pharmacist is still the ideal scientific arrangement. For the physician it secures a wider range of remedies, greater elegance of preparation, relief from added anxieties, and a saving of time which may be profitably utilized in the many avenues of a busy practitioner's life. For the pharmacist it means an honorable and profitable connection with professional men, whose own interest would be served by the prosperity of the druggists to whom they send their patients.

But as experience amply proves that this relation is either effectually destroyed or in process of destruction, we find here as in biology, a necessary and inevitable reversion to a former type—the dispensing physician. Physicians will return to the custom of dispensing, and the pharmacist will continue to occupy the ground he has gained, making rapid and fresh reprisals in the territory of his former allies until the strong arm of the law is finally invoked to drive him back to the field of his former and legitimate activity. That the prescribing physician should then reappear, would not be inconsistent with his own diginity and advantage.

MEDICAL NEWS.

PHYSICIANS IN POLITICS.

The first physician in Michigan to be nominated for any important state office by either of the two great political parties is Doctor Edgar B. Smith, who is the candidate for State Treasurer on the Democratic ticket. The doctor is well known as a reputable physician of the progressive type, and although never an office seeker in the profession he has possessed a happy faculty of impressing his friends with his winning propensities on various occasions, a characteristic that brought him the nomination for the treasury portfolio at the Grand Rapids convention. Doctor Smith is a graduate of the Detroit College of Medicine, class of 1887, and has since been located in Detroit where he enjoys an extensive practice. His literary training was received in Canada and Albany, New York, being completed at Albert College in the Dominion. He is identified with local, state and national societies, and has served as secretary, vicepresident and president of the Wayne County Medical Society, filling the executive office two terms. He was formerly connected with the Michigan College of Medicine and Surgery of Detroit and with the Detroit College of Medicine, holding the position of assistant, and subsequently professor of minor surgery in the former institution, and that of lecturer on pathology of the oral cavity in the dental department of the latter. The doctor has thoroughly canvassed the state and feels confident of the support of the profession. * * * Doctor David Inglis, of Detroit, has been nominated for member of the legislature, but his declination of the honor is reported on account of professional duties. * * * Doctor W. J. Duff, of Port Huron, is practically elected to the legislature, being the only nominee in the first representative district of Huron county. The unanimous vote of his constituents will be given to him in recognition of valorous services rendered to the Port Huron company during the Cuban campaign. * * * Doctor G. D. Stewart, of Detroit, is the Democratic candidate for Sheriff of Wayne county, and another Detroit physician, Doctor W. K. Kwiecinski, is in the race for Coroner of the same county.

MINOR INTELLIGENCE.

The South Carolina state law requiring railroads to furnish separate coaches for white and colored persons went into effect September 1.

It is reported that Doctor Samuel Pozzi, of Paris, operated on Sara Bernhardt, the great actress, for the removal of an intraligamentous cyst.

The annual meeting of the American Medico-Psychological Association will be held in the city of New York, on Tuesday, Wednesday, Thursday, and Friday, May 23d to 26th, 1899.

Doctor I. W. Cleveland, against whom a charge for manslaughter was recently brought for causing the death of an infant, has been discharged from custody on the ground that there was no evidence to warrant a trial.

The Detroit Academy of Medicine elected the following officers at its recent annual meeting: President, Doctor F. W. Robbins; vicepresident, Doctor George Duffield; secretary-treasurer, Doctor H. D. Jenks; trustee, Doctor J. E. Emerson.

The Washtenaw County (Ann Arbor) Medical Society held its one hundred and twenty-third regular meeting on Friday evening, October 7. Papers were read by Doctors Flemming Carrow and Charles B. Nancrede, and Doctor Eliza Mosher delivered an address.

The Leucocyte, a journal published by the students of the Detroit College of Medicine, made its first appearance for the current college year in October. It is devoted exclusively to the students and alumni of the institution from which it emanates, and contains much matter of interest and value to this constituency. It will be issued monthly.

The following officers will have *charge d'affaires* of the Wayne County Medical Society for the ensuing year: President, Doctor R. H. Honner; vicepresident, Doctor A. E. Carrier; secretary, Doctor W. J. Cree; treasurer, Doctor C. Henri Leonard; board of directors, Doctors C. D. Aaron, A. D. Holmes, G. A. Kirker, J. H. Sanderson, and D. H. O'Donnell.

The proposed amalgamation of the Wayne County Medical Society and the Detroit Medical and Library Association remains unconsummated. The committees having the matter under consideration reported that inasmuch as both organizations were incorporated union could not be effected without involving legal entanglement, and consequently negotiations have been discontinued.

An interesting and unique case recently presented in the service of Professor J. H. Carstens at Harper Hospital was that of a pregnant woman, twenty-one years of age, the subject of repeated pelvic inflammation and a continued rise in temperature. On the supposition of suppurative tubal disease a section was made and revealed a double pregnancy of two and a half months duration. One fetus was contained normally within the uterus, the other within the tube. The extrauterine pregnancy was accordingly removed together with the appendage. The case is reported as rapidly recovering.

The following officers for the ensuing year were elected by the American Public Health Association at its recent meeting held in Ottawa, Canada: President, Doctor George H. Rohé, of Sykesville, Maryland; first vicepresident, Doctor Henry Mitchell, of Asbury Park, New Jersey; second vicepresident, Doctor J. E. Monjaras, of San Luis Potosi, Mexico; secretary, Doctor C. O. Probst, Columbus, Ohio; treasurer, Doctor Henry D. Holton, of Brattleboro, Vermont. November 1, 1899, is the date of the next meeting, which will be held at Minneapolis.

The following officers were elected at the Nashville meeting of the Mississippi Valley Medical Association: President, Doctor Duncan Eve, Nashville, Tennessee; first vicepresident, Doctor A. J. Ochsner, Chicago, Illinois; second vicepresident, Doctor J. C. Morfit, Saint Louis, Missouri; secretary, Doctor Henry E. Tuley, Louisville, Kentucky, (111 West Kentucky street); treasurer, Doctor D. S. Reynolds, Louisville, Kentucky. Next place of meeting—Chicago. Chairman of Committee of Arrangements—Doctor Harold N. Moyer. Time of meeting—October, 1899, date to be determined by the executive officers and the chairman of the committee of arrangements.

The Sanatory Club of Buffalo, New York, has expressed a desire for a meeting of sanitarians and others to consider the advisability of recommending details for the establishment of military camps of instruction constructed upon strictly hygienic principles and contemplating a water system, sewerage, asphalt floors and streets. The question will be discussed from its economic, military, and sanatory aspects, for the purpose of determining the feasibility of instituting permanent camps of instruction for the use of the general or local government. Those interested in this subject should address Doctor Ernest Wende, Health Officer of Buffalo, and Chairman of the Topic Committee.

The Michigan State Medical Society has a membership of 557. Seventy-two physicians were initiated at Grand Rapids last year and forty-two at Detroit this year. The following statistics give an idea of the attendance in recent years, being the number that registered at each meeting:

Flint,	1892	195
Muskegon,	1893	133
Lansing,	1894	161
Bay City,	1895	184
Mount Clemens,	1896	210
Grand Rapids,	1897	188
Detroit,	1898	132

Health and sanitation day at the Civic-Philanthropic Conference recently held in Battle Creek was an important feature of the occasion. Many members of the medical profession were in evidence at the several meetings, a delegation of about fifty well-known physicians from Chicago being included in the number. The deliberations were conducted under the chairmanship of Doctor William E. Quine, and the program announced addresses by Doctors D. A. K. Steele, Charles B. Johnson, I. N. Danforth, W. M. Harsha, J. H. Kellogg, and others. Among the questions considered were—"Relation of Habits of Life to Individual and Race Deterioration," "How Best to Teach the Masses Principles of Public and Individual Hygiene," and "The Duty of the State in Relation to the Suppression of Pulmonary Tuberculosis."

RECENT PUBLICATIONS.

REVIEWS.

ELEMENTS OF HISTOLOGY.*

This well-known and widely-used manual reappears after a lapse of nine years. It goes without saying that revision has become necessary after this period of time. The progress of knowledge of the cell and the changed conception of the nervous system have rendered many of these works obsolete. The author has realized this condition and, with his associate, thoroughly revised and partly rewritten the former text. In its new form it will meet every requirement on the subject of Histology. The efforts of the publishers to produce an attractive and useful book will certainly be appreciated. The work commends itself.

*By E. Klein, M.D., F.R.S., Lecturer on General Anatomy and Physiology in the Medical School of Saint Bartholomew's Hospital, London, and J. S. Edkins, M.A., M.B., Joint Lecturer on and Demonstrator of Physiology in the Medical School of Saint Bartholomew's Hospital, London. In one 12mo. volume of 506 pages, with 296 illustrations. Cloth, $2.00 net. Lea Brothers & Company, Philadelphia and New York.

THE REFRACTION OF THE EYE: A MANUAL FOR STUDENTS.*

We have before us the ninth edition of what is probably the most complete manual on refraction in the market. While it cannot supply the place of the classical treatise of Donders, or the comprehensive works of Manthuer and Landolt, there is no manual which the beginner in the study of refraction can read with more profit than this one of Hartridge's. A happy faculty for simplifying things renders it for the beginner, with but a limited knowledge of mathematics, an unusually good little work. The chapter on "Retinoscopy" is particularly good. The author remarks: "Mydriatics are not necessary." Still, we think, for the beginner it is better to use them. The book is up to date in the text, and the publisher's work is all one can ask. All students who cannot afford the more complete works should supply themselves with Hartridge's. E. S.

*By Gustavus Hartridge, F.R.C.S. Ninth edition. Philadelphia: P. Blakiston's Son & Company.

PHYSIOLOGICAL CHEMISTRY.*

The subject matter of this book is arranged under the following heads: Fats, Carbohydrates, Proteins, Saliva, Gastric Juice, Pancreatic Secretion, Bile, Blood, Milk, Urine, Quantitative Analysis of Urine, Milk, Gastric Juice and Blood, Tables for Examination of Urine and List of Reagents. It is not designed as an exhaustive treatise but rather as a guide for students in the laboratory, and yet the text contains such explanatory descriptions as are needed to give a comprehensive view of the whole subject. The author's statement that the experiments outlined have been actually verified at the student's desk insure the reliability of the work. His successful experience in teaching affords a sufficient guarantee of the utility of the work in the hands of others.

*By Frederick G. Novy, Sc. D., M. D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Second edition, revised and enlarged. With frontispiece and twenty-four illustrations. Ann Arbor: George Wahr, 1898. Price $2.00 net.

MATERIA MEDICA FOR NURSES.*

We agree with the author of this book that thorough education better fits nurses for their duties as doctors' assistants and that works of this character are in demand. This book will not suffice to teach the art of prescribing but through it nurses may more intelligently handle the therapeutic resources left in their charge. At the end of each chapter are appended practical questions or problems. The book is of convenient size and serviceably bound in buckram.

*By John E. Groff, Ph. G., Apothecary in the Rhode Island Hospital, Providence. P. Blakiston's Son & Company, Philadelphia, 1898. Price, $1.25 net.

ORIGINAL ABSTRACTS.

SURGERY.

Acute Gonorrhea.—Doctor Paul J. Rosenheim gives some reflections in *The International Journal of Surgery* which sum up as follows: (1) Injections to be of greatest benefit should be retained by the patient from ten to fifteen minutes. Neisser recommends thirty minutes. (2) Janet's irrigation method of treatment, which has been advocated by Valentine, is very satisfactory. For these irrigations use protargol 1-2000 increased to 1-1000. (3) Gonococci should be attacked at once, and not a week or so lost by preliminary internal treatment. (4) Internal treatment should assist local applications, and salol, oil wintergreen, oil sandalwood, bicarbonate of soda and diluents are recommended.

* * *

Local Anesthesia for Extraction of Teeth.—

℞	Menthol, ...	gr. 160
	Tincture Myrrh, ...	m. 80
	Alcohol, ...	℥ij

Misce. Signa.—Thoroughly dry the gums and apply freely for a few minutes. Use more freely than for a deciduous tooth.—*Pediatrics.*

* * *

The Diagnosis of Cancer of the Breast.—(1) Classical signs of cancer: a—Adherence of tumor to skin and deep parts; b—Retraction of the nipple; c—Hardness of the tumor; d—Early involvement of axillary glands. (2) In certain cancers of the breast these are not always all present. (3) Chronic mastitis and cancer of the breast: a—Hard to distinguish from beginning cancers; b—Usually occurs during pregnancy or after parturition, this not common with cancer; c—Edematous condition not seen in cancer in which tumor does not keep imprint of finger on only to a small extent; d—After retraction of nipple, but in a regular manner, surrounded by a circular ridge of skin which, if pulled out, will allow the nipple to stand out—this is not the case in cancer; e—Pain severe and attacks more frequent, while in cancer there may be no pain as long as there is absence of ulceration; f—Improves under influence of rest and pressure. (4) Tuberculous lesions of breast and cancer: a—Generally coexists a regular pulmonary tuberculosis; b—Temperature changes suggesting tuberculosis; c—As in all tuberculous lesions we see after a while symptoms of local inflammation, often ending in fluctuation through the formation of more or less cheesy pus. (5) With all these rules for diagnosis we still are sometimes rather in the dark; in such cases our duty is very clear—operate at once!—*The International Journal of Surgery.*

Arthur F. Fischer, M. D.

The Physician and Surgeon

A PROFESSIONAL MEDICAL JOURNAL.

VOLUME XX. DECEMBER, 1898. NUMBER XII.

ORIGINAL CONTRIBUTIONS.

MEMOIRS.

THE DIAGNOSIS OF TYPHOID FEVER.*

By COLLINS H. JOHNSTON, B. A., M. D., Grand Rapids, Michigan.

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The diagnosis of a well developed case of typhoid fever, wherein a clear history is obtainable, is not a difficult task. Its characteristic symptoms are progressive, ascending fever, increasing weakness, nervous disturbances, diarrhea, enlargement of the spleen and a rose-colored eruption. It not unfrequently happens, however, that in an advanced case some of these typical symptoms are absent and others are so exaggerated that a positive diagnosis is exceedingly difficult, and mistakes are frequently made by our best clinicians at home and abroad. In this city I have seen a diagnosis of typhoid fever made in cases which ultimately proved to be acute tuberculosis, tubercular meningitis, purulent phlebitis, ulcerative endocarditis, pernicious anemia, suppurative otitis media, perinephritic abscess, leukemia, or malarial fever. Many of these mistakes have been made by myself. Also I have many times seen cases of typhoid diagnosed as malaria, gastric fever and ileo-colitis.

If *advanced* cases are often difficult to differentiate, an *early* diagnosis is often much more so; and as the mortality is much less in cases coming under treatment early, it is exceedingly important that the disease be at least suspected and proper treatment instituted at a time when a positive diagnosis is impossible. Fortunately the appropriate treatment of typhoid fever will rarely fail to be of benefit in any disease which may be mistaken for it. It is therefore, a safe rule to consider that typhoid is much more likely to be present and to be overlooked than that any other affection should be confounded with it.

A diagnosis during the second week is usually easy in typical cases; and while it may be hard to reach a *positive* conclusion during the *first* week in any case, and at any time during the course of the disease in many irregular cases, a *probable* diagnosis can usually be made within the first week in the great majority of patients. When a person previously well is taken ill with progressive malaise and weakness extending over several days, attended with headache, backache, loss of appetite and gradually increasing fever *of unknown origin*, with perhaps a slight nosebleed occasionally, typhoid fever should be suspected. "If at such a time," says H. C. Wood, "it is found that getting such a patient suddenly from bed into a standing posture notably increases the pulse rate, the case should be treated as one of incipient typhoid fever." If at the end of a week the spleen is enlarged, the abdomen somewhat tympanitic, and diarrhea and a rose-colored, lenticular eruption be present, the diagnosis is certain.

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*Read before the Grand Rapids Academy of Medicine.

But many cases do not begin with an appreciable period of malaise and a gradual rise in temperature. The disease may set in with a distinct chill followed by an abrupt rise in temperature to 103° or 104°. One of the cases in my care at present returned from Fernandina in the best of health. The next morning he had a severe chill, and that evening I found his temperature to be 104°. A gradual onset and a progressive rise of temperature from normal to 103° or 104° is, however, the rule, and this fact often helps us to differentiate typhoid fever from many cases of influenza and other acute febrile diseases whose symptoms at the end of the first week may closely resemble those of typhoid fever, but whose onset is usually *sudden*.

This abrupt onset is more apt to be met in children than in adults, especially when much pulmonary or gastro-intestinal irritation is present. In several cases of which I have records, children from two to six years of age were suddenly taken ill, and the temperature was found to be from 103° to 105° on what was apparently the first day of the illness. The finding of an enlarged spleen and a typical eruption on the second or third day render it certain that had careful thermometrical observations been made during the preceding week, more or less evening fever would have been found. For all practical purposes, however, typhoid fever began as suddenly in those cases as would pleurisy or pneumonia.

On the other hand we may have cases of enteric fever with normal or subnormal temperature throughout the entire course of the disease. My first acquaintance with this form was about two years ago. The patient, a woman aged fifty years, was ill three weeks with great prostration, coated tongue, abdominal symptoms, headache, backache, considerable stupor, and other symptoms of typhoid fever, but at no time was her temperature elevated. It was frequently subnormal. Nothing was lacking to complete a somewhat typical picture of typhoid fever but elevation of temperature. On looking over the authorities I found descriptions of afebrile or apyretic forms of this disease. A severe epidemic of this nature occurred in the German army while besieging Paris in 1870. All of the cases which died exhibited characteristic lesions in the intestines. Otherwise they might perhaps be considered cases of autointoxication.

The eruption peculiar to typhoid fever usually appears about the seventh day. But it may be entirely absent. While visiting Bellevue Hospital eleven years ago, Hudson, one of the visiting physicians, told me that not more than fifty per cent. of the cases treated in that hospital presented the rose-colored rash. I have found it in the most of my cases in this city, but when it is absent I do not hesitate to pronounce a case typhoid if the other characteristic symptoms are present. About two years ago I had three cases of typical typhoid fever in one family, only two of which had the eruption. On the other hand, in irregular cases it may be impossible to make a diagnosis before the roseola appears.

I consider enlargement of the spleen to be one of the most important diagnostic signs of typhoid fever. It is always present. The spleen begins to enlarge the third or fourth day and by the end of the first week can usually be detected by gentle palpation bulging beneath the lowest rib. In adults it may be hard to feel on account of the tympanites so often present. This is not so apt to be the case early in the disease. The thin abdominal walls of young children, in whom the abdominal symptoms are also often slight and tympanites absent, render palpation of the enlarged spleen much easier than in adults. The results from percussion are so uncertain and misleading that I no longer rely upon it. With a little practice one can readily detect the spleen when sufficiently enlarged to be of diagnostic importance. When percussion is used, it should be light to avoid developing the resonance of the stomach or bowels. The spleen may also be enlarged in malarial fevers, leukemia, early syphilitic infection, general septicemia, and some of the acute infectious diseases, all of which have been at times mistaken for typhoid fever. The history and course of most of these affections soon enable us to distinguish them from typhoid, and an examination of the blood is of very positive assistance in leukemia and often in malaria. In several of the diseases in which we are sometimes tempted to make a diagnosis of typhoid the spleen is not enlarged, as for instance in gastritis and gastric fever. So that whatever symptoms may be present in a case I hesitate to make a diagnosis of typhoid fever unless I find the spleen enlarged, except there be such a degree of abdominal distention present as to render its palpation improbable; and conversely, whenever I find a case of fever of unknown origin, with an enlargement of the spleen, I strongly suspect typhoid or malarial fever.

The disease with which typhoid fever is most frequently confounded in this city is malarial fever. Some of our physicians call most of their cases of continued fevers, malarial fever; others call them all typhoid. There ought to be no difficulty in differentiating typhoid fever from simple intermittent fever. A fever which rises quickly from normal to 103° or 104°, preceded perhaps by a chill, and followed in a few hours by sweating and a return of temperature to normal, is, in the great majority of cases, intermittent malarial fever. Between typhoid and remittent malarial fever the diagnosis is not always so easy, and **Osler** confesses that he is occasionally unable to differentiate certain cases of malarial remittent from typhoid fever without an examination of the blood. He has frequently sent cases to the wards as typhoid fever which subsequently proved to be ordinary malarial remittent. An examination of the blood or a trial of the temperature test with quinine will soon establish the diagnosis.

Malarial fevers are to be distinguished from typhoid by a number of facts: first, the presence of the malarial organism in the blood; second, a history of exposure to malarial influences; third, the marked effect for good on malarial fevers produced by quinine. The positive diagnosis of malarial rests upon the demonstration of malarial organisms in the blood. They will be found in nearly all cases when examined under favorable conditions. These are: First, that the examination be made by one who has had experience in such work. Second, that it be made during the paroxysm. Third, that no quinine shall have been previously given. While a positive result is conclusive, a negative one is not always so because of the difficulty in fulfilling all of the above conditions. Of the many cases of fever treated lately by the members of this academy, how many have received no quinine before coming into our charge? I fancy the number is quite small. The examination of the blood takes a good deal of time, but few physicians are familiar with the technique, and for the great majority of the profession a diagnosis of malarial fever must be made from the other symptoms. These in order of their importance are: (1) Enlargement of the spleen; (2) Prompt effect of quinine in reducing the temperature; (3) Usually a distinct periodicity in the symptoms; (4) A history of exposure in a district known to be malarial. Particular importance is to be attached to the therapeutic test. **Holt** says: "Recent experience emphasizes more and more strongly the fact that quinine has very little influence upon fevers which are not malarial; and conversely, that a fever which is immediately and permanently controlled by quinine is pretty certain to be malarial." **Osler** also says: "If the practitioner will take to heart the lesson that an intermittent fever which resists quinine is not malarial, he will avoid many errors in diagnosis. The therapeutic test usually removes every doubt. In not a single instance among the hundreds of cases of intermittent fever which I have had under my observation during the past seven years"—this was written by DOCTOR OSLER seven years ago—"did quinine fail to check the paroxysms." After such testimony, coupled with our own experience, we are certainly justified in saying that if sufficient doses of quinine fail to influence the paroxysmal disturbance in a case of fever in this city, the probabilities are altogether against such disturbance being of malarial origin.

To make the therapeutic test to differentiate between typhoid and malarial fevers sufficiently large doses of quinine must be employed. For an ordinary case in an adult from twenty to thirty grains must be given daily for three days. In severe cases, or when pernicious malarial fever is suspected, twenty or thirty grains may be administered hypodermically every two or three hours until seventy-five or one hundred are given. Cases demanding such doses as these, however, are seldom if ever seen here. For young children relatively much larger doses of quinine are required than for adults. I recently had an instructive case in a baby eight months old. It was ill about a week with a fever of rather irregular course, and in the absence of any other assignable cause for its high temperature I thought of typhoid and malarial fever. Knowing that typhoid fever was very rare under two years I inclined to the diagnosis of malaria, and gave the baby one grain of quinine four times a day, but without visible effect. I then examined its blood and to my pleasure and surprise found the hyaline plasmodium. The next day the baby received sixteen grains of quinine and its temperature dropped from 105° to normal. Children from five to ten years of age require almost as large doses as do adults.

EHRLICH's diazo-reaction is of considerable value in the recognition of typhoid fever. Although it has been before the profession eight or ten years its importance does not seem to be appreciated. EHRLICH says the test is usually responded to about the fourth to the seventh day of the disease, and it can be relied upon in every case during the second week. As this reaction is also obtained in cases of tubercular diseases, septicemia, pneumonia, pyemia, erysipelas and in several other febrile disorders, its presence is by no means pathognomonic of typhoid fever. But the results of this test are more or less negative in other diseases with the exception of tuberculosis, and as the reaction seems never to be obtained in malaria, and can be obtained in every case of typhoid, it is one of the most important means in our possession for the differentiation of these two fevers.

As a result of the continued ingestion of the poison in a malarious district there is sometimes developed an excessive degree of anemia which is of help in diagnosis. KELCH has shown that a single violent malarial paroxysm may cause a diminution of one million red blood corpuscles per cubic millimeter, and in malarial cachexia the red corpuscles may fall to five hundred thousand per cubic millimeter. In some of my recent cases of malarial fever, in the persons of young men returning from the south, a marked pallor of the skin and a yellowish hue of the conjunctivæ were the first signs to attract my attention. This I have never marked in typhoid fever unless it had been preceded by a run of malaria.

A paper on the diagnosis of typhoid fever would indeed be incomplete without some reference to the WIDAL test. The scientifice value of this test is now well established, but its application is still more difficult than is the examination of blood for the malarial parasite. Wishing to make use of it last week, I was unable to find a pure culture of the Eberth bacillus in this city. The reaction is occasionally obtained as early as the third day, but more frequently toward the end of the first week or early in the second. In a few typhoid cases it is absent throughout the disease. In doubtful cases, early in the disease, it is therefore not of much positive assistance in arriving at a diagnosis. But as the test is generally responded to in the second week, it will often be of great assistance in diagnosing atpyical cases, and is a good corroborative test in any case.

THE TREATMENT OF TYPHOID FEVER.*

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Fever is defined by Gould as a "systemic disease or symptom of disease, characterized by elevation of temperature," et cetera. Typhoid fever is defined by Foster as "A certain infectious fever due to introduction into the organism of the typhoid bacillus. The multiplication of this organic ferment produces in susceptible individuals" the various phenomena of typhoid fever. But what the real nature of fever is or how it is produced, they do not state.

Inasmuch as, generally speaking, the diseases characterized by fever are germ diseases, it has been argued with great plausibility that the greater or less elevation of temperature which we denominate "fever" is caused by the active antagonism between the normal elements of the body and those germs which have obtained lodgement in the system (and the ptomains which they produce), and that the variations in the temperature phenomena of different fevers are due to the peculiarities of the various germs and the different ways in which they affect the tissue elements. In my argument as to the treatment of typhoid fever, I shall assume that such is the explanation of the one symptom fever.

In every individual human organism resides a power of resistance to morbid influences. What that power is, or what are the elements concerned in its production is a question not pertinent to this discussion. It is enough for us to accept the fact that there is in every individual a natural resistance to disease, as also that other fact (sufficiently demonstrated to be called a fact) that this resistance resides largely in the leucocytes.

All germ diseases, all diseases depending on a specific germ, run a regular course and tend to recovery. In other words, sooner or later, if death does not occur, the resisting powers of the organism overcome the germs and their toxins, and physiological activity of the various organs is restored. This fact has long been recognized and lies at the foundation of our treatment of all specific diseases. In the absence of any direct antidote, an expectant line of treatment has been followed.

Thus in the treatment of typhoid fever, until very recently, the most generally accepted line of treatment was "good nursing and very little medication." The question suggests itself to our minds, is not that plan still the safest for the patient?

During recent years various plans of treatment of typhoid fever have been advanced which are radical departures from the expectant method. Of these I shall only particularize three. The Brand method of treating all cases which developed a degree of fever even moderately high, by cold baths, met with very widespread adoption, and was advocated by some of our best clinicians. Even now it is the accepted treatment with many, but not with the same rabid enthusiasm that characterized its first adoption. Whether the idea of its originator was that the high temperature was the factor that most threatened the life of the patient, or whether he looked upon that as simply an index of the severity of the infection, is immaterial. Whatever may have been the line of thought that first led to its use, it has been demonstrated that by this method the temperature can be effectually reduced with at the same time a tonic effect on the patient, instead of the depression that follows the use of the modern antipyretics. It has been claimed by the advocates of this method, that this tonic influence is due to the fact that by the use of the cold bath not only is the temperature reduced, but at the same time a rapid and decided increase in the number of the leucocytes is produced, and that by their action the nerve centres are, to a certain extent, relieved from the deleterious influence of the toxins. The explanation is certainly plausible. The objection to the

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Brand method, that the use of cold baths tends to internal congestion and therefore to hemorrhage is largely theoretical, but the objection that the shock to the patient is, in many cases, such as to create a great dread and aversion, is one that is of sufficient weight to condemn the method unless it can be shown that the advantages are sufficiently great to more than neutralize this disadvantage.

By the Woodbridge method it is attempted to directly antagonize the poison, and thus indirectly assist the natural resistance. By this method the attempt is made to destroy such of the germs and their ptomains as may be found in the intestinal canal, and at the same time stimulate the excretory functions of both the kidneys and intestines. This method has many very warm adherents who believe that in it they have found the correct solution of the problem of the treatment of typhoid fever. As to its efficacy, I am not qualified to speak because I have never used it. It has been recently urged that intestinal antisepsis is largely a myth and impossible of attainment. If this be true it goes far to destroy the foundation on which the Woodbridge method is based. Clinical evidence is, however, accumulating that there is, to say the least, much of value in it. Whether true typhoid fever can be aborted by this method, as is claimed, is certainly problematical and involves largely the question of accuracy in diagnosis.

At the meeting of the American Medical Association in Detroit recently, DOCTOR AULDE, of Philadelphia, read a paper on the management of typhoid fever which impressed me very strongly. The keynote of the line of treatment which he advocated was aid to the natural resistance of the system by the administration of nuclein, and direct antagonism to the bacilli and their ptomains by the internal use of arsenite of copper, which he gave freely—one one-hundredth of a grain every two hours. Because of the well-known property possessed by nuclein of causing hyperleucocytosis, and because of the clinically established fact that its administration is of great assistance to the organism in combating nearly all infections, it was chosen to fulfill the one indication which we all recognize, to aid the natural resistance of the system. By the use of the arsenite of copper an effort was made toward intestinal antisepsis and direct antagonism to the poison. I believe that by these remedies both these indications are met. My experience in their use has not yet been so great as to enable me to speak with any degree of positiveness as to their action, but in every case in which I have used them, I have been extremely gratified by the favorable course which the fever pursued. If the early stages indicated a severe infection, the conditions were soon so modified as to convert a severe attack into one of moderate severity. I have not given the arsenite of copper in the doses recommended by DOCTOR AULDE because it has not seemed necessary. In this I may have been wrong. In none of my cases have I found it necessary to subject the patient to the annoyance of a cold tub bath to reduce an unduly high temperature, or for any other reason. Nevertheless, if the evidences of typhoid intoxication were so severe as to prove alarming, or even to indicate a powerful impression on the nerve centres, I should not hesitate to invoke the aid of the Brand method of treatment, especially in the form of cold affusions and compresses.

It must not be inferred that I believe these remedies (nuclein and arsenite of copper) to be in any sense specifics; nor that the solution of the whole question of the treatment of typhoid fever lies in their administration, but rather that in them I believe we have the two best medicinal remedies at our command.

In no sense should we allow our reliance on these two remedies, or any others, to lessen our watchfulness as to all nonmedicinal precautions, such as attention to diet, bathing, pure air, et cetera. In no disease is attention to hygiene more important than in the management of typhoid fever. And in no disease do watchfulness and stringent regulation of the diet meet with better reward.

A SERIES OF TYPICAL CASES OF TYPHOID FEVER SUCCESSFULLY TREATED WITHOUT MEDICINE.

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In presenting this paper I feel that I am not offering anything new as I know the trend of the profession is toward little or no medicine in the treatment of typhoid fever, this fever being a self-limited disease, due to the operation of a special germ upon certain organs and tissues—it may be said upon every fluid and tissue of the body; a disease when once kindled in the system burns until the body shall have passed through a definite, morbid alteration; until the system shall have formed a tolerance for the presence of special fever producing elements; until the morbid change wrought by the operation of fever producing germs shall have returned to a normal condition. Having considered this, and having tried all the remedies and medicines, and so-called specifics, namely, mineral acids, salicylic acid, antiseptics, the Woodbridge and every other treatment, with little or no effect other than keeping my patient constantly irritated by nauseating and repulsive medicines, I asked myself "Why give turpentine emulsion? Who knows how this miserable tasting mixture acts upon disease producing germs, or how it is acted upon by the human chemical reagents favoring the return of the morbid condition of the system to that of health?" Not being able to solve this question satisfactorily to myself, after having given this so-called "sheet-anchor" remedy to at least five hundred fever patients, and having watched its tantalizing influence, without being able to observe any appreciable good effects, I obliterated it from my list of remedies. Quinine was treated in like manner after having given it a thorough trial in varying doses, in the hopes of meeting the various indications claimed for it and not obtaining any good results from it, but on the contrary a great many ill-effects, such as irritation of the already irritable stomach, tinnitus aurium, and aggravation of other nervous symptoms. Trying and discarding one medicine after another, I was finally left with but four remedies to draw from, namely, cold, heat, water and proper regulation of diet, which remedies, I believe, will meet every indication in the treatment of uncomplicated cases of typhoid fever, although it may be advisable to employ a little colored water or powdered chalk for moral effect on attendants and friends, thereby satisfying a morbid notion that some mysterious influence through the agency of medicine must be made to act upon the monster fever in order that the individual may be restored to health.

Typhoid fever being a bowel disease, in my opinion should be treated as such. The bowel being rendered unnaturally sensitive by the induration and ulceration of solitary glands situated along the alimentary canal, occasions increased peristaltic motion, diarrhea, fermentation, et cetera, all of which symptoms are increased by improper or overfeeding, but may be controlled by proper regulation of diet.

Diarrhea or tendency to looseness of bowels may be arrested, and in most cases prevented, by keeping the patient upon small or restricted diet. When diarrhea is persistent, or severe, much is gained by having patient refrain from food for a few hours until the stools become less frequent and small, and then by giving a little milk whey or food that leaves slight residue in the bowels, will in most cases control or arrest this unpleasant and frequently dangerous symptom.

Vomiting may be met in like manner until the stomach becomes less sensitive and the tendency to retrostalsis subsides. During the period of fasting, small pieces of cracked ice may be given, which is not only pleasing to the palate, but helps to allay vomiting and replenish the secretions and fluids of the body, after which a little milk whey, light soup, Nestle's food, et cetera,

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*Read before the Wayne County (Detroit) Medical Society.

may be given. I have tried this method a great many times and always with good effect.

Hemorrhage from the bowel may be arrested by putting patient upon small or restricted diet, thereby obviating the tendency to frequent stools and allowing the bowel to rest, thus favoring the formation of clot in the open vessel and at the same time lessening arterial tension and the liability to hemorrhage or recurrence of hemorrhage.

Patients fed upon milk, have not done well in my hands, being more liable to hemorrhage, diarrhœa, vomiting, disordered secretions, relapse and other unpleasant symptoms, than those fed upon small mixed or fluid diet, such as milk whey, light soups, gruels, soft boiled rice, et cetera. Milk whey acts kindly as food in most cases of typhoid, leaves little residue in bowel, contains nearly all the nourishing properties of milk and is less liable to disturb the organs of digestion. Water is indispensable in the treatment of fever; it renders the secretions, excretions and fluids of the body as nearly normal as is possible under the influence of disease and favors the activity of the excretory emunctories, making it possible for the system to rid itself of the products of fever.

Constipation, one of the not infrequent symptoms in commencing fever, can usually be relieved by giving plenty of cold water, and in case this fails, large enemata of pure water will usually meet this indication. I have never had this method of treating constipation fail in typhoid. Patients given plenty of good cold water seldom suffer from dry, coated tongue, sordes on teeth or any of the unpleasant mouth symptoms attending typhoid fever.

Cold is an invaluable remedy in the treatment of fever. With it I have been able to regulate the temperature and obviate the many unpleasant and dangerous symptoms resulting from long, high temperature. My method of applying cold has been by means of ice compresses applied over the abdomen and to the back of the neck. The amount of ice thus used must be regulated to suit the temperature. If the temperature is low in the morning or any part of the day, use less quantity of ice, and as the temperature rises, increase the amount of ice, thus keeping the temperature within certain limit. Cold thus applied will meet every indication expected from cold sponging or hauling patient in and out of bathtub, and, in my experience, is less liable to shock or irritate the patient. Ice compresses applied over the abdomen cools the great mass of blood circulating in the solid organs and through the large vessels of the abdomen, thus lowering the temperature of the whole body. My plan has been to commence with cold applications to the body early in fever, thus tempering the patient to the influence of cold. If applied in this manner, cold seems to have a comforting influence, as patients often ask to have ice replenished or compress reapplied after its removal. Cold applied in this way has an anodyne effect, as pain in the abdomen, often complained of by patients suffering from fever, is relieved by the use of ice compress. Not only does the ice compress lower temperature, but it meets other important indications, such as arresting or preventing tympanites, diarrhea and hemorrhage. Cold applied to the abdomen produces contraction of the muscles of the abdomen and muscular coat of the bowel, rendering the abdomen perfectly flat, thus relieving tympanites. Diarrhea may be controlled by the same means. This I know to be a fact, having tried it a great many times and always with good effect. Why diarrhea is relieved by cold compress, I am unable to explain, but entertain the opinion, that the weight of the compress and contraction of the muscles of the abdomen, coupled with the sedative influence of cold upon the bowel, arrests peristaltic motion of the bowel and in this manner relieves diarrhea. Hemorrhage is controlled in this situation by the influence of cold the same as hemorrhage from other parts of the body.

Nervous symptoms, such as delirium, uneasiness, thrashing about in bed, talking incoherently, picking at imaginary objects, all of which symptoms point to the giving out of vital force as the result of high temperature and typhoid intoxication, may be relieved and prevented in the majority of cases, by the early and continuous use of cold. When applied to the body cold is said to increase the function of respiration, favoring the absorption of oxygen and elimination of carbon dioxide, hence increasing oxidation and elimination of toxins constantly forming in the system as a result of increased tissue change and want of elimination. A tired heart and resulting congestion of the various organs, especially the lungs, is due in the majority of instances to long, high temperature and attendant typhoid intoxication, and may, like other symptoms resulting from hyperpyrexia, be met by proper and early use of cold. In my experience, the prophylactic treatment of the many dangerous symptoms is fraught with better results than applying the remedies to the actual symptoms. Thus we have in the combined influence of cold, proper regulation of diet, water, and heat, the remedies needed to meet the many indications in the treatment of typhoid fever.

In presenting the record of ten cases of typhoid fever which I have successfully treated without the use of medicine, I will avoid annoying you with a long history, giving each day's temperature range, et cetera, and endeavor to be as brief as possible. The first four cases occurred in one family and the symptoms were about the same, the previous history of each being good. The patients complained of backache, headache, dizziness, chilliness, slight cough, nosebleed and diarrhea.

Case I.—U. M., a female, aged twenty years, was taken sick July 20, 1896. Examination at 9 A. M. revealed a temperature of 101° Fahrenheit under the tongue, slight distention of abdomen, rose-colored spots scattered over body. I ordered patient put to bed in quiet, well-ventilated room; prescribed ice compress over abdomen, with instructions to increase the amount of ice in after-part of day, and give small diet with plenty of cold water (usual colored water in two glasses). The maximum temperature occurred on the sixth, tenth and eleventh days, reaching 103.5°. There were no unusual symptoms during the course of the disease, the fever subsiding on the sixteenth day.

Case II.—J. M., a male aged nine years, was taken sick July 24. Examination revealed abdomen slightly tender and distended. Same treatment elected as in case one. There were no unusual symptoms other than little vomiting, which was controlled by fasting. Maximum temperature on the eighth day, reaching 104° Fahrenheit. The fever subsided on the eighteenth day.

Case III.—H. M., a female, aged five years, was taken sick July 25. Temperature at 10 A. M., 101° Fahrenheit. Examination showed abdomen slightly distended and tender. The same treatment adopted as in first case and no unusual symptoms occurred during its employment. Maximum temperature on the eighth and eleventh days, reaching 103 3-5° Fahrenheit. The fever subsided on the fifteenth day.

Case IV.—L. M., a female, aged seventeen years, was taken sick July 29. Temperature at 9 A. M., 100.5° Fahrenheit under tongue, abdomen slightly tender and distended, gurgling in iliac fossa. In this case there was a tendency to diarrhea which was readily overcome by fasting, followed by small diet and increase of ice in compress. Maximum temperature 104° Fahrenheit. The fever subsided on the twentieth day.

The following six cases were also in one family and the symptoms were about the same as the preceding and the treatment was along the same line.

Case V.—S. H., a male, aged twenty-four years, was taken sick October 26, 1896. Temperature at 10 A. M., 102° Fahrenheit, abdomen tender, and rose-colored spots scattered over its surface. I ordered patient to remain in bed, prescribed cold compress and small diet with plenty of cold water. Maximum temperature, 104°, with tendency to vomiting and diarrhea, which were readily controlled by fasting, followed by a little milk whey, et cetera. The fever continued seventeen days. Patient made perfect recovery.

Case VI.—C. H., a female, aged twelve years, was taken sick October 28. Examination at 2 P. M. revealed a temperature of 101° Fahrenheit, abdomen slightly distended and tender. Maximum temperature 103 4–5°. The fever continued fifteen days.

Case VII.—D. H., a female, aged twenty years, was taken sick November 3. Temperature at 9 A. M. 101° Fahrenheit, abdomen tender, gurgling in iliac fossa. Maximum temperature 104° Fahrenheit. There were no bad symptoms other than nosebleed, which gave little trouble. Fever subsided on the eighteenth day.

Case VIII.—A. H., a male, aged six years, was taken sick November 4. Temperature 100° Fahrenheit. Abdomen tender. The fever continued twelve days with a maximum of 104 1–5° Fahrenheit.

Case IX.—W. H., a male, aged twenty-four years, was taken sick November 4. Temperature at 9 A. M., 101° Fahrenheit. Abdomen distended and tender. Maximum temperature 104.5°. The fever continued seventeen days.

Case X..—M. H., a female, aged eight years, was taken sick November 6. Tongue coated, abdomen distended and tender, gurgling in iliac fossa. Maximum temperature 103 3–5°. The fever subsided on the eighteenth day.

In all these cases I continued the starvation diet and absolute rest for six days after the fever subsided and the patients made a perfect recovery.

THE PRESENT STATUS OF THE X-RAY IN DIAGNOSIS.*

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MY purpose in presenting this subject at this time is to give to those members of the association who have not time to read it for themselves a summary of what at present is considered the real value of this recent addition to our armamentarium.

Immediately following the announcement, in December, 1895, by PROFESSOR WILLIAM KONRAD RÖNTGEN, of Würzburg, Bavaria, that he had discovered this new radiation, there was suggested an infinite number of crude and unwarranted possibilities for its use, by those who had no understanding of its limitations or of its true value. This is the fate of anything new, be it ever so worthy, especially in the scope of the medical sciences. It was so with ROBERT KOCH'S announcement of his work on tuberculosis, but in his case the result was bound to be less fortunate on account of the premature condition in which he was practically compelled to give out the results of his investigation. RÖNTGEN, on the other hand, had so far completed his experiments that now, after two years and a half of work by the rest of the scientific world, there has been little added to what RÖNTGEN himself gave us on the subject. In details of manipulation and in points of theory, others have made suggestions of value; but, in essential features, little of change has been effected; and, so far as the theory is concerned, we have, as truly as ever, an unknown, which RÖNTGEN was pleased to represent by X.

RÖNTGEN had been working on the cathode rays, which had been recognized and more or less thoroughly investigated by CROOKES and HITTORF some time before. This investigation had really commenced soon after the invention of the induction coil; for certain observers had seen that, as the atmospheric pressure about the field between the electrodes is reduced, an interesting series of changes is begun. We need not here concern ourselves with this succession of changes, including the so-called GEISSLER and other effects. It is simply of interest in passing to note that certain of these effects seem to center abou the anode, while others as definitely proceed from the cathode.

After CROOKES, the work on the so-called cathode rays was taken up b LENARD and then by RÖNTGEN. Working independently, these men had show that the cathode rays possessed essentially the properties of light in that it wa possible to cause them to be reflected, refracted, and polarized, and to deflec them from their course by magnetic influence. PROFESSOR RÖNTGEN, in th course of this series of observations, noted certain rays which proceeded from the anode, when the exhaust was carried high enough in the Crookes tube. At about one-millionth of an atmosphere the cathode rays are produced. and gradually, as the vacuum rises, we are made able to see the rays that he described. This change in the tube is made known to the unaided eye by a peculiar golden-greenish fluorescence upon the inner surface of the glass, which increases until the vacuum becomes too high for the current used. The vacuum, in fact, does tend to increase by the effect of the passage of the current and, if continued too long, will rapidly cut down the efficiency of the tube, unless currents of greater strength are used. What is known as the penetrating power of a tube depends upon an adaptation of the current to the particular degree of vacuum present, which will excite rays in such an abundance that the deepest shadow which the tube is capable of producing is obtained. It can readily be seen that the higher vacua are more stable in their results, provided the tubes are able to carry the high currents necessary to excite them, because they are not subject to the same degree of variability, in the way of increase of vacuum. Just what is the cause for this phenomenon of apparent increase in vacuum is not well understood. Perhaps the air during the passage of the current, in some way gathers, forming an interference to the current, and thus acting somewhat after the manner of gases in an electric primary cell in what is called polarization. When a tube is found to be subject to this change it is necessary to have its vacuum increased by re-exhausting. A temporary improvement is obtained by reversing the direction of the current through the tube, thus apparently tearing away the cause of interference from the course of the current. It is often found, too, that a tube which has lain idle for some months will have restored its efficiency, the obstruction having dissipated itself meantime.

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*Read before the DETROIT MEDICAL AND LIBRARY ASSOCIATION, May 23, 1898.

Röntgen himself did not presume to say what these rays were. He simply and clearly proved that they were not the previously demonstrated cathode rays; and he was ever disposed to question their connection with the ultraviolet part of the spectrum, to which the latter undoubtedly do bear a definite relation. He leaves the question unsettled, in the paper in which he presented the matter to us first, and, while acknowledging that in the shadow-pictures and the actinic power of the rays he saw some connection with ultraviolet light, he was disposed to open the question whether they might not be a longitudinal vibration in the ether, whereas the ordinary spectrum is represented by a transverse vibration. This thought is supported in the following from Elihu Thompson, in an address before the American Institute of Electrical Engineers: "That there are varieties of Röntgen rays that differ in some way (whether in wave-length or what not it is hard to say) is undoubtedly beyond question. They cannot be divided into X_1, X_2, X_3, or to put it differently, into flesh, wood, and metal rays; but they probably represent a sort of gamut, a variation upward and downward in the scale."

The first workers with the X-ray thought of it as coming chiefly from the source of fluorescence at the inner surface of the tube, and there is no doubt that it does arise here, but further investigation as to the exact source of the main body of radiance points to the anode as the real source. It is possible to increase the proportion of rays coming from the anode by placing upon it a terminal plate of aluminum. Röntgen himself called attention to the fact that aluminum would cause the generation of the rays as well as glass, and made experiments with that metal to enclose the electrodes. As practically used at present, the aluminum is made as an anodal terminal or is placed in the path of the cathode rays on their way toward the anode and mounted upon a standard from the side of the tube, in which case the aluminum plate is spoken of as the anticathode. In any event the tubes now used have this plate inclined at an angle in order to turn the radiance as directly as possible upon the object to be examined. Many tubes have the cathode terminal in the form of a concave disk, the concave side being turned toward the anode. The degree of concavity is just enough to concentrate the perpendicular cathode rays upon the aluminum anodal plate. This is the peculiarity of what is known as the "focus-tube" and was suggested within the first six months of RÖNTGEN ray work.

For use in this work we have recourse to a number of sources of electrical energy. Of the forms in which we use the current when applied to the tube there are but two and these essentially similar. They are the induced current in the secondary circuit of the induction coil and the current of the static machine. The drawback in either case is the expense of the apparatus; for work of a highly scientific character requires a coil or machine of high power. This should not discourage attempts, however, with much more limited outfit; for anyone having a static machine of any considerable size has the most necessary part of an equipment with which to help himself solve many puzzling questions. For the present, the use of the street currents, either alternating or direct, is impracticable because of the complicated apparatus necessary, but in the laboratory either can be used. The so-called high-frequency coil of TESLA gives a very bright radiance with tubes adapted to it, but the tubes do not last and they should be of complicated structure on account of the fact that the current induced is alternating.

In using either the coil or the static machine, the spark-gap, as I have said, must be adjusted to the tube and the degree of vacuum within it. In the practical use of the rays, the efficiency of the tube in question, is observed at once by examining it with the fluoroscope, which is a darkened chamber or box, made to fit tightly about the eyes and the opposite side of which is a screen covered with one of the substances which are found to fluoresce when brought within the field of the rays. The substance with which RÖNTGEN made most of his experiments is the platino-cyanide of barium, but it has since been found that the tungstate of calcium is more actively fluorescent and so forms more distinctly outlined shadows. This fluoroscope is to be used in the rough examination of all cases clinically. It has the advantage of being able to take account of movements of the organs observed and of bringing us to more immediate conclusions when, as often happens, it is necessary to view the object from different directions in order to avail ourselves of the triangulation. We may to a certain degree, however, think of the fluoroscope as related in accuracy of detail to the skiagraph as the naked eye to the telescope, or perhaps better, as the naked eye to the photographic plate through the telescope. For skiagraphic impressions any of the best photographic dry-plates are satisfactory; it is not necessary that they be of the fastest kind. The length of exposure necessary for skiagraphic work varies with the thickness of the part to be skiagraphed, the relative density of the tissues involved and the penetrating power of the tube. In shortening the time necessary for taking the skiagraph of any particular part, rapid advances have been made in the two years that we have had this method of investigation. Exposures of the thicker portions of the trunk were often prolonged to an hour and more at first, but now such long exposures with tube and current properly adjusted are seldom if ever necessary. An exposure of one minute is ample time for getting a good impression of the hand and three minutes will do nearly as well for the ankle; some one is reported to have exhibited last month before the French Academy of Medicine three skiagraphs of remarkable clearness, which had had exposures of three, nine, and forty seconds respectively. As can readily be seen, this rapid work due to greater penetration, permits the bringing out in the negative of details that on longer exposure would be lost. And it is to be remarked that the negative in any case may show details which, in the print from the same, would be indistinct or wholly blotted out. So far as the contrast due to the variation in opacity of the tissues to the rays is concerned, the danger has been that the plate be over-exposed, but, until the tubes of greater penetration were used, this seemed unavoidable. Distinctness is further favored, when using good tubes and high voltages, by removing the tube at some distance from the part to be exposed and allowing the rays to be filtered through a sheet of metal, which seems to prevent their diffusion in the tissues.

Before dismissing the subject of the technique of skiagraphy, certain untoward effects should be mentioned as occasionally accompanying the use of this method. These, however, by proper care and with the more rapid methods, can usually be avoided. The effort to account for these effects has led to a great deal of speculation, some saying that they were in some way due to the proximity of highly charged bodies and strong currents to the skin surfaces. One advocate of the static machine for X-ray work, to the exclusion of other forms of apparatus, claims that it never happens with the former, but this is undoubtedly too radical a statement. The effects are chiefly upon the skin although in a few cases deeper tissues have apparently been involved. The matter depends largely upon an idiosyncrasy, and in many respects we see in these results the analogue of those due to sunlight. There is the dermatitis and in time a pigmentation, and, in a few reported cases wherein the exposure has involved the head, the symptoms have closely simulated sunstroke. The dermatitis has been of all degrees from a slight flush to a troublesome ulcer, but such cases have become more and more rare since a reasonable prophylaxis has become possible. Another means to be used in this way, besides rapid work, is the protection of exposed surfaces by means of thin sheets of lead or aluminum, which seem to cut off the actively irritating agent in or accompanying the rays. This measure is to be carried out especially when the head is in the field because the influence is especially marked upon the hair-bulbs, causing sometimes considerable patches of scalp to be left bare even when other effects are absent.

Of the special applications of the X-ray to diagnosis and in assisting to carry out an indicated line of treatment, I should mention a few of both the surgical and the medical possibilities. Among the former, we must concede that thus far its greatest service has come in conditions wherein foreign bodies are lodged in the tissues or organs, and in those wherein the osseous system is involved, while, among the more strictly medical affections, those involving the thorax give, in the hands of the expert, no small degree of promise. Of other regions wherein the ray may be useful, I will make only brief mention. Aside from grounds of diagnosis and treatment, there is sure to be a wide field for the use—and the abuse as well—of the ray in legal medicine. As with any poorly understood means of acquiring evidence, this will, in many hands, for a time lead to unwarranted conclusions without our having as yet any certain expert tribunal to which the injured party may appeal. The earnest endeavors of many leading men in the profession are supplying this want, however, for every week brings us something to add to the certainty of what can and what cannot be learned by this agency. We have had a superabundance of scientific tinsel and paste thrust upon us by those who followed this novelty largely for personal ends; but now we may hope that the real gems may not be thus overshadowed, because the subject is coming to receive the attention more exclusively of those worthy of being called investigators.

Of the more strictly surgical uses of the X-ray, the most prominent, as I have said, and the one perhaps easiest of manipulation with a somewhat meagre outfit is the case of foreign bodies lodged beneath the surface. We may now say almost without reserve that it is possible to locate these anywhere in the body, provided only they be of a material to some degree opaque to the rays. Bullets have been located inside the brain-substance and removed by means of the knowledge gained. In the trunk or extremities even very small metallic or mineral bodies are discernible, and, when the fluoroscope fails to detect them, they can almost invariably be brought out on the plate. In any such case wherein operation is contemplated, it should not be done without skiagraphing in more than one direction, and, to avoid distortion, the tube should be as far removed from the part as its limit of efficiency will allow.

One class of foreign bodies, perhaps not ordinarily classed as such, which should be here considered, is that of the calculi. Of these there is a marked variation in opacity, but recent experiments give us reasonably to hope that most, if not all, of these will be capable of demonstration in position. The order of ease of detection, beginning with the first, is (a) oxalate, (b) phosphate, (c) uric acid, and (d) biliary. The fact that the last named is so situated as to be surrounded by tissues, themselves dense and often charged with the same materials found in the calculus, makes the work exceptionally difficult, and that such a task has really been accomplished gives us renewed hope as to what may be accomplished still.

In this class of cases, it is also to be pointed out that the rays may be and often have been of inestimable value in locating obstructions along the alimentary canal, especially in the esophagus. Of this Detroit has had at least one good illustration, wherein, after skiagraphing, a coin was removed by esophagotomy from a child.

Perhaps to be mentioned along with these cases are those wherein foreign bodies other than calculi are located in the bladder. From one such case a hair pin was promptly removed.

When the bones are involved the most common condition in which the rays are useful is fracture, and in any such case a record of the condition present may be of great service to the practitioner when a subsequent question might arise as to the treatment. As to value in diagnosis, those fractures wherein there is a question of the involvement of a joint leave no doubt, and the practitioner who has the apparatus within reach—and whose patient can afford it—will naturally turn to this means of assuring himself that he has rendered the best possible service. In fact, even in the long bones, when a question remains as to the completeness or permanency of the reduction, the surgeon will rest much easier for having the assurance which a skiagraph can give him. In a restless patient especially might this be important.

Already many features of the classical injuries have been found not to have been so thoroughly understood as was supposed. For instance, in a series of forty-four apparently typical cases of Colles' fracture, nineteen were found to show a separation of the capitellum of the ulna, which was only slight, to be sure, on account of the periosteal fixation. This fracture has not generally been recognized, except when it came so low as to fall through the base of the styloid process and so allow complete separation. In the same way we may find unsuspected conditions of more or less serious importance by careful routine examination of the elbow, knee, or ankle.

Again, in the diagnosis between fracture near a joint, or separation of an epiphysis, and dislocation, we may find ourselves quite at sea unless we resort to the skiagraph. In such a case, particularly in any case of suspected but obscure fracture, there is every indication for using it rather than resorting to manipulation which may be worse than useless.

In the sequels to fracture, faulty union, failure to unite, and ankylosis, we find further special and positive indications for the use of the ray in diagnosis and prognosis. In the first two, one would hardly think of operating for their relief without first resorting to the rays, if accessible, and most surgeons would have curiosity enough to take a look at their work through the fluoroscope afterward. In the case of ankylosis an early enough use of the ray may put us in the way to prevent it entirely, while, after it has occurred, we can by this means determine whether the cause is bony or fibrous and so act accordingly. It is, too, not a bad suggestion that has been advanced, to use this means of determining a probable hysterical cause by exclusion.

I have incidentally touched upon dislocations, and doubtless many cas would strongly indicate the use of the skiagraph, but in general there is not t necessity so frequently of resorting to it as with fractures. I say necessity, f the luxury of one day becomes the necessity of the next.

In the diagnosis of tumors involving or springing from bone, we may gai some useful information. If an osteosarcoma or an exostosis exists it will course cast its shadow upon the plate; but we may still determine the presen of other sarcomata by the variations in shadow from the normal surroun ing soft tissues as well as from the lighter area wherein the malignant process proceeding at the expense of the bone. This same feature appears in case of caries of the bone wherein, as often happens, a portion of the latter near a tuberculous joint has been eroded. Gouty deposits are said to present a somewhat lighter shadow than normal bone, while rheumatism in its chronic condition causes a darkening of them. Abscesses about the bone or within it and conditions of periosteal inflammation cause varying degrees of alteration in the uniformity of the shadow and so lend some assistance here to questions of diagnosis.

Other conditions wherein the rays have been of undoubted value, in a way at least partly surgical, are those of aneurism and arteriosclerosis. Even the normal vessels have been traced in many parts by the more improved apparatus, but when the walls become loaded with calcareous deposit, the demonstration becomes relatively easy. It is often possible to show the extent of the condition in a way that is of great diagnostic value.

In the thorax, brought out against the lighter area represented by the lung, it is possible to watch the pulsation of an aneurism and, by considering the position, to clearly distinguish it from a condition of cardiac hypertrophy or dilatation. It is in the thorax, too, as I have said, that the X-ray offers us the most satisfactory results in the determination of the presence of the more truly medical disorders. That it is possible in the hands of the trained operator with good apparatus to determine in some cases the presence of acute pulmonary tuberculosis and pneumonia, even before the physical signs will warrant a positive diagnosis, there is little doubt in the light of the reported work of **Williams**, of Boston, **Bouchard**, of Paris, and **Wassermann**, of Vienna. This method makes use not only of the direct observation of the darkened areas due to infiltration, but brings a new element into the diagnosis, that of the excursion of the diaphragm. **Williams** says, in his latest article on the subject: "The expansion of the lung [in tuberculosis] is reduced, either by changes in itself or in the pleura, and therefore the excursion of the diaphragm downward is diminished during full inspiration, but this muscle is carried up into the thorax as high or it may be even higher than in health." It is possible to watch this effect as well as the darkened lung area through the course of an acute pneumonia. The shadow can be seen gradually disappearing even when it is no longer possible to demonstrate the presence of the disease by percussion and auscultation.

In the condition of emphysema and of pneumothorax, they observe, as might be expected, a limited excursion of the diaphragm, but in these conditions the restriction is placed upon its rising to its normal height in expiration, while in the last named it is decidedly depressed. In either condition a relatively brighter lung-area than normal is observed.

The effusions of pleurisy and pericarditis are other conditions within the range of fluoroscopic observation, and the differentiation of various forms of cardiac enlargement are interesting objects of study. **Williams** calls particular attention to the value of observing the relative size of the triangle seen in the side-to-side view between the diaphragm, heart, and spine, in cases wherein a normal condition of the lungs permits it. This triangle in cardiac enlargement will naturally be early encroached upon.

That there is a field for the **Röntgen** method, already demonstrated in the thorax and the beginnings of which we can see for the abdomen, there is no longer any doubt. That it will supplant the stethoscope is impossible, but that it adds one more to the means of accurate diagnosis we are already certain. Here as in surgery, the expense precludes the possibility of its general application, but every city may well count itself fortunate that has accessible the means and the expert professional skill to determine the questions which this method is capable of helping us to settle. With a more general recognition of the value of the method, the obstacle of expense will be in large part removed and the apparatus will be better adapted to practical manipulation. A certain routine proficiency should then be as common among professional men as exists at present with the microscope, and the results to be derived from it should be a no less ample return from the clinical standpoint. The danger of injury being done to the professional man by the unscrupulous will be infinitely greater, either in medicine or surgery, so long as he fails to familiarize himself with the method and so put himself on guard against injustice of this kind. This injustice may come from the careless professional—or unprofessional—man as well as from the laity, who know little or nothing of the difficulties presented by the particular case. The surgeon who carelessly exhibits any and all of his skiagraphic prints may find himself in, or bring his professional brother into serious trouble. For this reason it is well, I believe, to avoid making prints indiscriminately and to depend upon a study of the negative for ordinary work. There is all the more reason for this when we consider what I have said before, that much of the detail in a good negative is lost at best in the print.

In this brief and, I realize, somewhat unsatisfactory way, I have attempted to present what we may reasonably expect from the Röntgen ray in its present state of development. Although it may be that little remains for us in the way of immediate improvement and extension of the means at our command, yet we have enough, with the problems presented for scientific observation, to keep busy many active minds for the solution of the latter. Keeping pace with this active interest in the possibilities of the method, will go the value of its everyday application. It now rests with the professional man rather than the scientist, the amateur, or the merely commercially interested, to add most to its value; for he is in a better position to find access to the material for observation and should be better able to interpret the results obtained.

I wish, in closing, to acknowledge indebtedness to my former teachers, Doctor Nancrede and Doctor Herdman, of the University of Michigan, and to Doctor Francis H. Williams, of Boston, for valuable information derived from their experience.

CHRONIC CONJUNCTIVITIS.*

By W. F. STRANGWAYS, M. D., Flint, Michigan.

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Chronic conjunctivitis, chronic ophthalmia, chronic hyperemia of the conjunctiva and hyperemia palpebralis are names used by different authors for one of the most common and annoying diseases of the eye. Some practitioners please their patients by calling it granulations of the lids. Its chronicity and subjective symptoms give some excuse for this mistake, but the objective symptoms are so very different that they should prevent the confusing of the two diseases.

Pathology.—The pathological influence is not great, yet we are very much interested in the slight changes since they are our diagnostic guides. Aside from the increased blood supply the average case presents no change. The abnormal amount of blood gives a redder tinge to the conjunctiva, changing it from the normal salmon color through the various shades to a dusky red. It lessens the transparency of the conjunctiva and increases the size of the vessels so that they become very distinct to the naked eye. The surface of the membrane may appear slightly roughened. The papillary structures are not much enlarged; the membrane is but slightly thickened, save in cases of ectropion. If the lids have been turned out for a long time the conjunctiva becomes decidedly thick and rough, or velvety and opaque. The increased secretions irritate and produce excoriations of the lids, which in the course of years may bring about ectropion. Injection of the blood-vessels is the cardinal change. Any other marked pathological condition should make us suspect some other disease. I place stress on the injection of the blood-vessels being the pathological condition for our diagnosis of diseases of the conjunctiva, must depend on the objective rather than the subjective symptoms, since often the latter are peculiar to the patient rather than to the disease.

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*Read at the Rochester meeting of the Northeastern District (Michigan) Medical Society.

Symptomatology.—What has been said under the head of pathology fairly describes the objective symptoms. The subjective symptoms vary much. They make the life of one patient very miserable, while they trouble the next patient so little that he does not suspect the existence of the disease until his physician calls attention to it. As a rule the patient complains of some three or four of the following symptoms: burning, smarting, itching, blurring, epiphora, dryness, pricking and gritty sensations, hypersensitiveness to light and the resulting heaviness of the lids with inability to open the eyes as widely as normal; also a small amount of secretions which dry into small crusts especially at the inner canthi. These symptoms are made worse by near work, wind, dust, smoke, bright light, heat, loss of sleep, colds, and poor health. Generally the secretions are augmented a little. In the morning the lids may have a little tendency to glue together, but more frequently the patient speaks of small, dry crusts being lodged in or near the inner canthi. Occasionally winking whips the secretions into a foam. If the tears run over the lower lids excoriations may result and in time ectropion. The increased amount of mucus causes optical illusions and floating bodies before the eyes. They also lessen the patient's ability to keep extraneous bodies out of the eyes.

Etiology.—To a large extent the etiology of chronic conjunctivitis governs its prognosis and treatment. Some cases are met wherein neither the history, examination nor results of treatment enable us to determine the cause, yet the cases are few in which some one or more of the following cannot be placed in the etiology column: (1) Frequent exposures to dust, smoke, heat, cold winds, bad air, bright lights, poor soap for toilet purposes. (2) Alcoholic and gouty habits. (3) Pterygium, chalazion, cysts of tarsus, blepharitis, ectropion, lachrymal and nasal diseases. (4) Faulty use of the eyes, such as excessive reading especially in poor light, or in the recumbent position, likewise with print too close or too low. (5) Haziness of the vitreous, incipient cataract and leukoma. (6) Refractive errors as uncorrected astigmatism, hyperopia and presbyopia. (7) Muscular errors.

Diagnosis.—To diagnose chronic conjunctivitis is easy, but to determine the cause is often very difficult, yet very necessary for judicious treatment. Granular lids and chronic conjunctivits should never be confused since such a mistake is a serious reflection on the physician's skill as well as an injury to the patient. The roughness of granular lids is so much greater than and so very different from the slight roughness of chronic conjunctivitis lids, that as a rule even a tyro should be able to diagnose the one from the other.

Prognosis.—If we can discover the cause and remove it we can assure our patient a cure will follow the use of a mild wash. If we cannot remove the cause we can mitigate the trouble enough to make the eyes comfortable, especially while using a collyrium.

Treatment.—The first thing to do is to remove the cause. Mild astringents may cure a few cases, but the removal of the cause is necessary nine times out of ten. The number of household remedies is legion. Many of them are positively bad, some are revolting to the finer senses, while a few possess more or less healing virtues. Among the latter may be placed salt and water, alum, zinc sulphate, lead salts, and hamamelis. In England the fluid extract of opium, one-half drachm to the ounce of water, is a popular remedy. A patent eyewater which has had a very large sale in England is said to be a little salt in camphor water, while in this country one of the most widely used proprietary remedies has zinc sulphate for its principal ingredient. In Germany collyrium astringens luteum is highly extolled. It consists of ammonia chloride fifty centigrams, and zinc sulphate one hundred and twenty-five centigrams dissolved in two hundred grams of water to which is added forty centigrams of camphor and ten grams of saffron dissolved in ten grams of alcohol. Another remedy found in many European prescriptions is equal parts of fennel water and tincture of fennel which is known as Bomerhausen's eyewater. With ophthalmologists in this country boric acid solutions are the most popular. Agnew's Spray is an excellent mixture which may be dropped into the eye or used as a spray. The formula for it is—

℞	Tannin, ...	grs. x
	Biborate of soda, ...	grs. x
	Glycerine, ...	ʒi
	Camphor water, ...	ʒvii

Fine sprays of rose water with a few drops of alcohol are soothing and should be used more than they are. Lead salts are excellent astringents which have the happiest influence at times, but are not frequently prescribed since they form permanent deposits on the cornea if there is any break in Bowman's membrane. Silver nitrate solutions are strongly commended by some and by others just as strongly condemned. My own experience teaches me that if they are used properly in selected cases they are very beneficial.

THE SPASMODIC NERVOUS DISEASES, WITH A REPORT OF TWO CASES.*

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The current text-books on diseases of the nervous system do not generally thus classify the diseases under consideration, but there is a well-recognized list, the symptoms of which may entitle them to be thus considered. The number is not so very large nor formidable and yet within its limits is the widest range of possibilities as to symptoms, diagnosis, and treatment, while the pathology is a realm, which may yet yield much to the painstaking scientific explorer.

The catalogue of the neuroses will be here most largely drawn upon, the degenerative neuroses: epilepsy, hysteria, the spasmodic tics, paramyoclonus, myotonia congenita (Thomsen's disease), here occupying a prominent place, while scarcely secondary are the acquired neuroses: chorea, tetanus, tetany.

I purposely omit reference to the convulsions of children, merely intercurrent symptoms of digestive disturbances, difficult dentition, or other temporary sources of irritation, which bring from the oversensitive keyboard of a highly developed nervous organization these discordant notes. Nor are the occasional convulsive disturbances of other grave nervous conditions here taken into account. Let us, rather, here briefly, even if meagerly, review those affections of the nervous system, the cardinal, and perhaps sole symptoms of which are manifestations of a spasmodic character.

Such a disease is epilepsy of which we know but little more than that it is a symptom-complex and that volumes have been written in the hitherto vain attempt to run down and efficiently corral that most elusive will-o'-the-wisp, its pathology.

Special institutions for epileptics, like the Craig Colony, in New York and the Ohio State Hospital for Epileptics, at Gallipolis, bid fair to be fertile in substantial additions to the study of the subject, for researches more systematic and truly scientific in character than the former desultory attacks upon this formidable citadel are now being taken up. A recent report of Doctor Ohlmacher, in charge of the Ohio institution, calls attention to the "Persistent Thymus and other Morbid Anatomic Peculiarities in Certain Cases of Epilepsy." This is based upon a careful study of eighteen cases, in eight of which (six being cases of grand mal) more or less constant pathological conditions were noted. Doctor Ohlmacher does not believe the enlarged thymus a casual coincidence and calls attention to the fact, that in cases of laryngismus stridulous and other cases of sudden death without assignable lesion this condition has been found present. Of his findings, he has this to say: "Persistent and enlarged thymus gland; a pronounced enlargement of the intestinal and splenic lymph follicles; a more or less pronounced hypertrophy of the lymphatic glands, and the lymph-adenoid follicles of the tongue, larynx, trachea, esophagus, tonsils, and even of the stomach; a narrowing of the arteries; an abundant development of fat; and certain osseous changes indicative of old rickets. Not all the abnormalities comprehended in this summary were present in a single case, though the persistent thymus, with one or several features added, was constant."

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*Read before the Detroit Academy of Medicine.

Other and varied features of the study of epilepsy appear now and then from the Craig Colony at Sonvea. Let us hope that we may thus come into possession of such real and substantial knowledge of the pathology of epilepsy that our treatment of the disease may be more scientific and successful than it has hitherto been.

Hysteria, too, multiphased and maniform, we know all too little about. Its pathology is hardly better understood than that of epilepsy. Largely influenced by sex, heredity, and environment, it is, perhaps, almost as much determined by faulty training and education, in short, all that makes for defective inhibitory powers. It has been well said that "its treatment should begin before the birth of the child who is heir to it." With certain well marked symptoms peculiarly its own, it also strangely simulates other diseases.

Both epilepsy and hysteria are commonly easily recognized, but there are, at times, niceties of diagnosis belonging to the latter, which seldom pertain to the former, though there is a point at which the two are closely in relation and differential diagnosis worthy of consideration.

Hysteria is closely allied to palmus, that peculiar irritative condition found in "the jumpers," quite common, I believe, among the French-Canadians of the lumber camps, one of the spasmodic tics. It (hysteria) is too commonly recognized or suspected only to be lightly dismissed as a thing of doubtful entity and unworthy of careful thought and study. Its spasmodic forms are not at all uncommon and they simulate kindred spasmodic diseases with provoking closeness.

Of spasmodic tic, the pathology is also a terra incognita. It is a chronic condition characterized by quick spasms of certain groups of muscles or single muscles. The spasm has a tendency to become localized. The movements are often violent and several rapid contractions may succeed each other after which there is a period of rest. It may involve the muscles of the diaphragm or larynx. Stuttering is one phase of tic. It occurs frequently in neurotic children between six and sixteen. Coprolalia or echolalia, one or both, may occur. Saltatory spasm is, doubtless, only one form of spasmodic tic.

Of close kin, also, is paramyoclonus multiplex, a rare disease in this country, a false chorea, usually occuring in adults, more often in the male. It is characterized by a quick, sharp, and often violent shock-like contraction, often of the trunk and hip muscles, the body being alternately flexed and extended, frequently with such violence that the patient is thrown from his chair or bed. The patients are usually of neurotic and hysterical history. The contractions may involve the arms and legs, tend to be locallzed, and are said to differ from those of hysteria, pure and simple, in "that they affect groups of muscles which have not the same physiological function and produce movements which cannot be imitated voluntarily" (DANA). The contractions may be very slight. The pathology is as obscure as that of other members of this group.

One writer (GRAY) deems the prognosis excellent and electricity of so great and prompt value as to assist in clearing up the diagnosis from chorea, Huntington's chorea, torticollis, palmus, and myotonia, while another authority (DANA) thinks the prognosis only fairly good, mentioning tonics, chloral, and galvanism as efficient means of treatment which may be supplemented by atropine, hyoscine, hydrotherapy.

The muscles most affected are the deltoid, triceps, biceps, supinator, quadriceps femoris, hamstring and calf muscles. "The diaphragm may be involved producing a peculiar hiccough, or an odd respiratory sound in which the larynx probably takes part" (GOWERS). "Myotatic irritability has usually been increased; the attempt to obtain the knee-jerk has sometimes excited the spasm" (GOWERS).

Saltatory spasm is likewise a rare condition and consists in jumping movements immediately produced by any attempt of the patient to stand upon his feet. Differing opinions of authorities are thus illustrated. GRAY writes: "It yields very readily to treatment, such as tonics, or copious sweating, and in some cases, electricity," while GOWERS speaks thus: "The disease in most cases has not appeared to be readily influenced by treatment." Etiology and pathology are alike obscure.

Myotonia (Thomsen's disease) presents points of difference from paramyoclonus in that it is usually an hereditary disease and that the spasms are tonic instead of clonic. The muscles become stiff upon voluntary exertion. Cold, damp, excitement, et cetera, are to be avoided as having an unfavorable influence; prognosis is usually grave, but GRAY reports a case as cured by belladonna, rest, and massage, although just before reporting this case he calls attention to the fact that, whereas, in most spasmodic nervous diseases rest is of primary importance it is said to make this disease distinctly worse. No cure of a congenital case has, I believe, been reported.

Only one autopsy has been recorded, but bits of muscle harpooned or excised during life show the following changes, which are the salient points urged, in a recent paper by DOCTOR GEORGE W. JACOBY, in favor of a myopathic theory of the disease:

(1) The hypertrophy and rounding off of the muscular fibres.

(2) The increase of sarcolemma nuclei.

(3) The diffuseness, indistinctness, and even loss of the transverse striation.

(4) Minute changes consisting in a massing together of the sarcous elements and a wide separation of these elements in other parts.

When this paper was read, DOCTOR G. M. HAMMOND presented to the New York Neurological Society three children, all of the same family, as examples of this interesting disease.

The bizarre movements of chorea are well known to all of you, yet the general practitioner has too seldom any accurate conception of the different forms of chorea. As a rule, he has little idea that Sydenham's, Dubini's, Bergeron's, and Huntington's chorea are four separate and distinct diseases; that Sydenham's chorea is a humoral disease, Dubini's an infectious disease, Bergeron's the outward manifestations of a general neurosis, while Huntington's is a degenerative disease of the nervous system, having nothing in common with ordinary chorea excepting the bizarre and involuntary movements.

So-called hammering chorea, laryngeal chorea, diaphragmatic chorea, chorea festinans, chorea procursiva, saltatory and gesticulatory chorea are all, doubtless, more properly classified under the tics.

Sydenham's chorea, influenced by rheumatism, pregnancy, exhausting diseases, et cetera, is said to occur directly from "certain dissociated conditions of the components of the blood." Fright, worry, shock, et cetera, may here act as an exciting cause.

Of Dubini's chorea, we hear less frequent mention than the other varieties; it is an infectious disease confined almost exclusively to the north of Italy. It has been described and referred to as chorea electrica. Bergeron's (or Henoch's) chorea develops quickly and abruptly in nervous anemic patients, from fright, shock, et cetera. The movements are electric in character, more often of muscles of the face, neck, and shoulders, and cease during sleep.

Huntington's chorea is a degenerative disease of the whole nervous system, generally of family or hereditary type, and is not benefitted by treatment. It is well, then, not to indiscriminately confuse these different varieties. So broad and indefinite did the use of the term, chorea, become, that Sydenham sought to restrict it to true chorea, or chorea minor, and it is this variety with which we are best acquainted. It is but little known among the negroes and occurs more often in cities than in the country. Hereditary influences are frequently to be found. Insanity, epilepsy, and chorea are of frequent occurrence among the relatives of choreic patients. Nine-tenths of the cases occur between the ages of five and twenty, and four-fifths between five and fifteen. Girls are affected about three times as often as boys. Climate seems to exert no important influence; the influence of season is the subject of discussion. The larger number of cases was found by one writer in Philadelphia to occur during the spring months, while another investigator failed to corroborate this finding by investigations carried on in Boston. The only known immediate causes are emotional, fright, shock, or rarely mental stress.

It is well known that a large proportion of choreic patients have had rheumatism. The too common result of rheumatism, a cardiac impairment, is not infrequently found in choreic patients. It may develop during the attack or precede it. Pregnancy seems to have a certain influence, also; the chorea begins more often in the third month.

The spontaneous, incoordinate movements of chorea are too well known to need discussion here; they are irregular in time and degree. I think that, if any one thing more than another characterizes the movements of chorea, it is irregularity. The movements may be only occasional at first, but may later so increase in frequency as to be almost constant. They, however, usually preserve their bizarre, irregular character. Speech may be impaired; the disease is as a rule painless, without sensory changes. Mental irritability or dullness is only characteristic of severe cases and this may develop later into insanity often maniacal in character and this may not be recovered from. Epileptiform convulsions with chorea are rare; persistent spasm has also occurred.

The disease usually lasts from six weeks to six months and the prognosis, as to life, is therefore good; the disease is, however, prone to recur. The gray matter of the cortex and its meninges, the pyramidal tract, lenticular nuclei, and spinal chord show in acute cases "intense hyperemia, with dilatation of vessels, small hemorrhages or spots of softening, infiltration of perivascular spaces with round cells, and swelling and proliferation of the intima of the arteries" (Dana). In chronic cases, there is less evidence of acute vascular irritation, but there is an increase of connective tissue.

Rest, hygienic and tonic treatment are most desirable. Arsenic, antipyrin, exalgin, antifebrin, tincture of cimicifuga, bromide and valerianate of zinc, the bromides and chloral are all remedies of more or less value for their specific effects. I do not care to more fully discuss the treatment here.

Tetanus is, as you know, an acute, infectious disease characterized by violent tonic spasms, its diagnosis being based on the history and peculiar spasms. Though recoveries do occur, treatment is more often futile. The status of the serum therapy of the disease is not yet fixed. I give the disease only this cursory mention to pass on to tetany (or tetanilla), which is very rare in this country. It is a subacute or chronic disease characterized by intermittent or persistent tonic spasms beginning in the extremities and associated with paraesthesiæ and hyperexcitability of the motor and sensory nerves (Dana). For our present purpose, we need not discuss it further.

I hope I may be pardoned for this very imperfect review of what have seemed to me the more salient points of the spasmodic nervous diseases. They have been discussed chiefly with the idea of only so much of a review of these diseases as might possibly prove of assistance in the discussion of the following two cases and because these two cases suggest the covering of this very ground. Both cases have been in the service of Doctor Emerson and myself at Harper Hospital and both were seen by Doctor Inglis, as consulting neurologist.

Case I.—Mrs. A., aged thirty-one years, a Canadian domestic, was admitted to Harper Hospital May 12, 1898. She has been married and has had one child. The family history is entirely negative. She says that about fifteen months prior to admission she first felt her legs growing weak, that she walked with difficulty, could hardly put one foot before the other, and claims to have fallen once or twice. A jerking, more or less regular, soon followed. This feeling of weakness is still present, though in less degree. She claims to have experienced, early in her illness, knife-like pains, but these are now slight or absent.

A jerking motion of the body is present at irregular intervals and always seems increased by the visits of the physician. If I approach the patient sitting quietly in the ward and engage her in conversation, she speedily has severe and frequent jerkings. She denies that it is increased by the presence of strangers, but daily disproves her own denials. A strong contraction of the erector spinæ muscles can be distinctly felt and there seems to be a strong contraction of the diaphragm. The pain of which she complains seems to follow pretty well the insertion of the diaphragm. The nuchal muscles also participate in the spasm, the body being jerked back upon the pelvis, and the head upon the body, a sound frequently escaping as if either ejaculatory from a strong contraction of the diaphragm or as if there were a spasm of the larynx.

She claims to have had more or less rheumatism, and says that on cloudy days she is always worse, having more pain and increased jerking. The pupils respond rather slowly. On one occasion, a tap below the right patella seemed to elicit a spastic condition, but on another examination the reflexes were apparently normal. The first examination with reference to sensory conditions seemed to disclose areas of impaired sensation, both tactile and to heat and cold, below the knees, but this finding was entirely upset by a later examination which failed to reveal any sensory alterations.

The jerking of the legs is especially violent at times, usually when patient is in bed. She says she cannot lie on either side. Jerking seems at times to be abolished during sleep, at other times she jerks when asleep. She complains of being much annoyed by a sensation as of a ball in the throat (doubtless the globus hystericus). She coordinates well, there is no ataxia. She was for seven months under the treatment of DOCTOR INGLIS, but his notes throw no light, other than that he regarded the case as one of hysteria. The spinal alignment is normal, she complains of pain on pressure over lower cervical, upper dorsal, and lumbar regions. She appears gaunt, pale, anemic, listless, cachectic. Examination of urine shows crystals of oxalate of calcium, otherwise normal. The jerking does not seem choreic in character, it is usually infrequent, but systematic, not bizarre and irregular as is so common in choreic patients.

Fowler's solution and bromide of sodium are of no effect and the same result attends the use of sodium bromide and ammonium valerianate; galvanism is equally discouraging.

Later she was examined by DOCTOR CARSTENS, who found and operated upon an extensively lacerated cervix uteri, excising much dense cicatricial tissue. For nine days following the operation, there was almost no jerking at all, but our hopes of an early recovery were rudely dashed by its very persistent return.

She was given malt extract with hypophosphites and Gude's elixir ferri pepto-manganate in free doses, for a long time, but with no perceptible effect. She objected to remaining in bed and resented the rest which was imposed upon her. Blisters to the nape of the neck, and later, an ice-bag to the spine failed to improve her condition. Electricity in the form of general faradization was given daily, but likewise without effect. She constantly rebelled at being kept in bed, seemed indisposed to coöperate for her own good and finally left the hospital August 12, practically unimproved.

The hysterical element here was unquestionably a large one, but the woman's cachectic appearance constantly impressed DOCTOR EMERSON and myself with the idea that there was here something more than mere hysteria. It is one of those cases in which an exact diagnosis is most difficult. I regret that no blood examinations were made.

Case II.—Matilda M.. aged sixteen years, a school-girl of American parentage and single, was admitted to Harper Hospital May 14, 1898. The mother is said to have died of "spinal abscess"; the family history is otherwise negative. She says that she has always been "nervous", and so easily startled that her schoolmates would throw paper-wads at her to see her jump. Two years ago she had a severe attack of what was called rheumatism, and has had slight attacks since. She has had severe knife-like pains beginning in the back of the neck and extending up over the head into the eyes. She says that at times she can see but a few feet. She wears glasses, which are found on examination not to properly correct the defect of vision in one eye. This is remedied, but without improvement of any kind. Both fundi are normal.

There is present a rapidly repeated jerking of the right arm, so frequently repeated as to be almost an exaggerated tremor. At times the left arm participates, and sometimes the legs; this usually occurring when patient is in bed. When she is tired the jerking is worse; it ceases during sleep. Attempts to test the reflexes are unsatisfactory, owing to her highly sensitive susceptibility to all external motor stimuli. They appear to be normal, however. Her pupils are often unequal, but there is nothing constant about this, for they are at times equal and sometimes one, sometimes the other is the larger, even on the same day. There are no sensory changes, she coordinates well; the urine shows no abnormality, the blood was not examined. Two years ago she had a fall on the ice, followed by some tenderness over the lumbar spine, but none is now apparent. She has had this jerking for three months prior to admission.

Fowler's solution M V is prescribed regularly, and at first had no perceptible effect. The importance of rest was early recognized, and she was kept constantly in bed and iron added to the arsenic. Patient is well nourished, of cheerful disposition, and apparently disposed to cooperate perfectly for her own good. After a week of this treatment she was so much improved that there was scarcely any jerking noticeable, when, on May 25, an insane woman was unfortunately admitted to a ward near by and her screaming so startled and frightened this patient that the jerking immediately returned, and has been more or less present ever since. The patient has very frequently, almost daily in fact, complained of severe headaches, pain extending from the nape of the neck up over the head and into the eyes, and for this many different remedies have been administered, but without satisfactory effect. Other remedies directed to the motor difficulty were likewise without avail.

Trional, phenacetin, the bromides, a combination of trional and Jamaica dogwood (given at the suggestion of Doctor Inglis), salicylate of lithia, gelsemium and the valerianate of ammonium, the iodides, ergot and ammonium valerianate, aromatic sulphuric acid were among the internal remedies given in this case in addition to those earlier mentioned, but without appreciable effect on either headache or motor disturbance. Tincture of iodine and an ice-bag were at different times applied to the spine, but with negative results.

Through June she was up and around the hospital, but when I again took the service, July 1, or soon after, she was again kept in bed, with the exception of an hour in the morning and an hour in the afternoon. Later, orders as to rest were not strictly carried out and the benefit of complete rest did not have a fair trial. The patient became very restless and was constantly asking for more liberty. Galvanism was an important part of the prescribed treatment, but for some reason its administration was not faithfully attended to.

I have repeatedly watched the patient sitting quietly reading, unconscious that anyone was watching her, and free from all twitching. As soon, however, as I made my presence known it immediately returned.

I believe this to be a case which ought to have the advantage of the Weir Mitchell plan of treatment, the so-called "rest cure." Rigidly carried out this would, in my judgment, prove most efficient in its results with such a case, which I am inclined to regard as one of the convulsive tics. In the first case, the diagnosis seems to me to lie between an hysterical chorea and paramyoclonus multiplex. It, too, ought to have the advantages of such a plan of treatment, wherein rest is the prime consideration; a plan which, to be efficient, needs many appointments, which a general hospital cannot afford to its ward patients.

With reference to diagnosis the following quotation from Gowers seems significant: "Hysterical patients occasionally suffer from general spasmodic movements which sometimes resemble those of true chorea, but more often differ from it in the greater regularity of the muscular contractions. * * * In ordinary hysterical chorea the movements present certain distinguishing features. They are generally more sudden and shock-like, resembling those of the so-called 'electrical chorea'. This is a rare feature of true chorea, in which such sudden contractions of many muscles are met with rather as a spasmodic sequel than as part of the symptoms. The second feature of the hysterical form, more frequent and of still greater significance, is the rhythmical character of the spasm. The movements are more or less regular, instead of presenting the characteristic irregularity of ordinary chorea. The spasm is usually moderate in degree, never so intense as in the severer forms of the genuine malady; nevertheless, the hysterical form is often a very obstinate malady. It may last for many months; indeed, its average duration is considerably greater than that of the ordinary form."

The foregoing is, I realize, a most imperfect presentation of the subject. Its defects will, I trust, be atoned for by the discussion which I hope it may elicit. These points may, perhaps, be profitably emphasized:

(I) The great desirability of a more accurate knowledge of the pathology of the spasmodic nervous diseases.

(II) The fact of the very close relations of the different members of the group makes accurate diagnosis oftentimes very difficuit.

(III) Rest is of prime importance in the treatment, and the rest cure should be as fully carried out as possible.

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DISEASES OF THE EAR AS A SPECIALTY.*

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When we look over the standard of medical teaching and medical knowledge in our country we notice a remarkable difference between them. We all agree that the medical teaching in the United States can be greatly improved. Medical education with a great many physicians in our country is quite high. This is due, in all probability, to the assimilation of the advancement made in Europe. However, the reaping of fruit which we have not sown ourselves has also another side. I know this question occupies the mind of a great many physicians throughout the United States, and I will not go further into this subject, but will only say that if this is true in general medicine it is especially so in otology. Even considering the circumstances existing, otology does not occupy the position in the United States it should. Otology ought to be recognized as a specialty and rank equally as well as ophthalmology, laryngology, gastro-enterology, gynecology, dermatology, neurology, et cetera, for it is only in this way that we can develop a branch in medicine that has been neglected. With your kind permission I should like to give you a short sketc of the position which otology takes as a special line of study.

Reed recently said that there was not a single product of human labor mental or physical, but was dependent for its possibility upon numerous othe highly specialized human activities. Currier, in his paper, "The Division an Subdivision of Medical Work," says: "It has at length dawned upon the min of the profession, and *pari passu* upon the community which sustains it and is sustained by it, that life is too short and medical science too vast to allow a single individual, no matter how great his acquisitive power, to combine in himself all its excellencies and possibilities" As every aurist knows, otology is not sufficiently recognized by the profession or by the laity. According to **Jacobson** we have to consider three points before otology will be seen in a proper light. (1) The frequency of ear diseases; (2) the dangers not only toward the function of the ear, but also for the life of the patient; (3) the great importance of an early diagnosis. I might add to this a fourth point, the difficulty in treatment of the ear, especially of operations with their after treatment.

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*Read before the Wayne County (Detroit) Medical Society.

The peculiarity of diseases of the ear consists, first, in the fact that the ear as a part of the human body is frequently associated with other diseases, and, second, that diseases of the ear, whatever their origin may be, can first affect the ear as an organ of hearing and impair the maintenance of the equilibrium; and second, on account of its situation at the base of the cranium, can be the source of grave danger toward the body.

Allow me now to name some diseases of the ear, their frequency and origin. **Buerkner** has found that a cold was the cause of ear trouble in thirteen and nine-tenths per cent. and **Wilde** in thirty-one and five-tenths per cent. **Sexton**, of New York, estimated the number of ear troubles following sea bathing as one thousand during the season. The close connection between the naso-pharynx and the ear explains why, according to **Buerkner**, rhinitis was the cause of acute catarrh of the middle ear in twenty-two and six-tenths per cent., of chronic in twenty-six per cent., of acute suppurative inflammation of the middle ear in nine and three-tenths per cent., of chronic suppurative inflammation in four per cent. **Buerkner's** statistics of one hundred thousand cases showed the diseased naso-pharynx as the cause of ear troubles in sixty per cent. Of one thousand and eighty-three ear patients of **Meyer** seven and four-tenths per cent. had adenoids. Enlarged tonsils frequently cause ear diseases.

A great variety of general diseases involve the ear. Diseases of the respiratory and circulatory organs, in general, can affect the ear. Caries of the teeth and stomach troubles can be connected with disturbances in the organ in question. The ear can take part in diseases of the genito-urinary tract. **Doumergue** found changes in the ear in thirty-five per cent. of Bright's disease, whether acute or chronic. Hemorrhages from the ear have been observed when the menses failed to appear. The ear can also be affected during and after pregnancy. **Eitelberg** found in two hundred and fifty cases of rachitis twenty-five cases connected with a suppurative middle ear process. Among two hundred and fifty children he found inflammation of the middle ear forty-six times, and only thirty-nine normal drum membranes in all of them. Gout and polyarthritis are frequently accompanied with ear troubles, also anemia, chlorosis, leukemia, pernicious anemia, and diabetes.

The ear is often affected in and after acute and chronic infectious diseases. The microbes—the bacillus pneumoniæ, diplococcus, staphylococcus, streptococcus, bacillus tuberculosis, and others—can enter the ear in different ways, and they can scarcely find a better bed for their development. The tympanic cavity, with its contents and pockets, is practically a thermostat for them. Diphtheria causes at least one and one-half per cent. of the cases of suppuration in the middle ear (**Buerkner**). **Bezold** showed that scarlet fever affected the ear in fifteen and six-tenths per cent. of all the cases of suppuration in the middle ear which he saw during thirty years. **Buerkner** could see pathological changes in the ear in sixty-eight out of one hundred cases of scarlet fevor. **Henoch** made the observation that in some epidemics of scarlet fever fifty per cent. of the cases were associated with an otitis media. **Burckhardt Merian** saw suppurative middle ears in twenty-two per cent. to thirty-two per cent. of all scarlet fever cases in different epidemics. Scarlet fever was the cause of deaf mutism according to **Hedinger** in fifteen per cent., according to **Mygind** in twenty and eight-tenths per cent., according to **Uchermann** in twenty-seven and one-half per cent., according to **Schmaltz** in forty-two and six-tenths per cent. Measles were the cause of simple otitis in five per cent., of acute suppurative otitis in nine per cent., and of chronic suppurative in eight and nine-tenths per cent. **Mygind** found measles causing deaf mutism in five per cent. out of 4,773 cases of deaf mutism. Typhoid fever was the cause of simple catarrh in one and five-tenths per cent., of acute suppurative otitis in three and five-tenths per cent., of chronic in five per cent., of deafness also in five per cent.

Meningitis simplex and epidemica can be associated with ear trouble. The autopsies of children who died from broncho-pneumonia showed inflammation of the middle ear in seventy-five to seventy-seven. out of one hundred cases. Influenza, malaria, mumps and tuberculosis play an important part in diseases of the ear. The scrofulous diathesis was the cause in six per cent. of the cases of acute middle ear catarrh, in seven and five-tenths per cent. of chronic middle ear catarrh, in eleven and seven-tenths per cent. of acute suppurative otitis media, and in fourteen and five-tenths per cent. of chronic suppurative otitis media (**Buerkner**). Acquired or hereditary syphilis is not seldom the cause of ear trouble. Of forty-three syphilitic new born children the middle ear was affected twenty-seven times, the labyrinth four times, and both together twelve times..

Besides this, diseases of the nervous system, pachymeningitis, apoplexy, multiple sclerosis, tumors of the brain, of the cerebellum, epilepsy, hysteria, tabes dorsalis, et cetera, can be accompanied by disturbances in the ear. There exists also a relation between the ear and the eye. Many ear patients showed an astonishing improvement of the function of the eye after the ear had been treated. **Urbantsch** made this observation frequently after using a bougie in the Eustachian tube or the massage of the same. In two cases he noticed that after tenotomy of the musculus stapedius the eyes could be used without causing severe headache, which could not be done before.

The daily work of many people is accompanied with danger toward the function of hearing. People who work in a very noisy neighborhood, for example boilermakers, engineers, firemen, artillery men and men who work in compressed air are subject to ear troubles. The evil of the long use of the telephone has been noticed on patients with ear trouble (**Blake**). Soldiers develop caries after suppurations more frequently than civilians under the same circumstances, on account of the hardships they have to endure.

Various drugs and poisons affect the ear, for example, lead, mercury, nitrate of silver, iodide of potassium, tobacco, morphine, hashisch, chloroform, quinine, and salicylic acid.

Accumulation of cerumen is often the source of disturbances in the ear. Foreign bodies in the ear are not infrequent. Some three hundred years ago **Fabricius Hildanus** noticed epileptiform attacks and atrophy of one arm with anesthesia of the left side of the body caused by a glass pearl in the meatus. Tobacco may be found in the tympanic cavity of people who use it as snuff. Trauma as the cause of ear trouble is found in ten per cent. of cases.

A disposition for chronic diseases of the tympanum and the labyrinth can be inherited. **Triquet** found this in twenty-six per cent., Moos in thirty-seven per cent. I also mention the bad influence in regard to the ear of parents who were previously related. In old age exists an inclination for chronic inflammation of the middle ear and for ankylosis.

It seems astonishing that the ear is far more affected than is generally believed. **Troeltsch** could state that it is an error for people to say that few suffer from diseases of the ear, and he thinks that one man out of three is no of normal hearing. **Buerkner** saw in four hundred and twenty-three apparently sound organs only twenty-six and two-tenths per cent. normal drum membranes. **Weil** and **Bezold** showed that out of thousands of school children who were supposed to hear well twenty-five per cent. to thirty-two per cent. hac not normal ears, and **Nager** found that even more than forty per cent. of the school children which he examined were hard of hearing in one or both ears. Whoever might still be in doubt about the frequency of ear diseases may look over the records of some of the ear clinics. **Graz** counted in 1895, 2,498 new ear patients; Halle, with 115,000 inhabitants, had in the year 1896–97, 1,869; Gœttingen, with 25,000 inhabitants, had in the year 1897–98, 1,663; **Gruber**'s ear clinic in Vienna, had in 1896, 6,023; the Massachusetts Charitable Eye and Ear Infirmary, in Boston, counted in the year 1896–97, 5,377 new ear patients and 19,902 old ones; the New York Eye and Ear Infirmary in the year 1896–97, 7,086 new ear patients. It must be remembered that in Vienna, Boston, and New York, other ear clinics exist beside those named.

Let us now consider the second point, the dangers resulting toward the function of the ear and to the patient. Diseases of the ear can cause a decreasing of the hearing power, headache, dizziness, violent pain and noises which can drive a patient to insanity and suicide; furthermore, they can cause death. Deafness is not only an obstacle to enjoy life, but also for earning a living, and can be a source of danger to the patient and others. You know how easily an accident may happen to a person who cannot depend upon his hearing. **Harless** calls the ear the alert protector of the human body. Imagine the danger to passengers on a vessel when the captain cannot hear the fog horn on account of ear troubles, as reported by **Crockett**. A child being deaf before the fourth year, nearly always, and one being deaf before the seventh year frequently becomes a deaf mute (**Jacobson**). In speaking of the importance of deafness in the development of the child, **Troeltsch** remarks that people who cannot hear since their childhood are uncertain in their actions and in their thinking.

I have mentioned the great danger of ear diseases toward the life of the patient. A suppuration in the ear is not only very annoying to the patient but can cause serious trouble in other parts, which is easily understood when we think of the situation of the organ in question. Concerning persons affected with a suppurative ear, I will only repeat the words of **Wilde**, who says: "So long as otorrhea is present we never can tell how, when, or where it will end, or where it may lead to." According to **Pitt** every one hundred and fifty-ninth man dies from a suppurative ear. **Barker**'s statistics, based on 8,028 autopsies, would have given the same percentage if some of the cases had not been operated upon (**Koerner**). He found that two and five-tenths per cent. of acute and chronic suppurative ear cases resulted in death. **Buerkner** and **Randall** proved that three-tenths per cent. of all deaths were due to diseases of the ear. According to **Pitt** (with 9.000 autopsies) and **Treitel** (with 6,000 autopsies), one-third of all abscesses of the brain trace their origin to the ear.

It was and still is generally believed that there cannot much be done for the diseases of the ear. Every aurist knows that there can be more done than is generally accepted. **Wilde** says that equally as many cases of diseases of the ear can be cured, as serious diseases of the eye, the chest, the brain, the liver or any other organ. **Buerkner** reported that out of his 3,945 cases during the years 1894–96, fifty-six and six-tenths per cent. were cured and twenty and nine-tenths per cent. were improved, and that out of 4,934 cases during the years 1896–98, fifty-three and four-tenths per cent. were cured and twenty-four and nine-tenths per cent. improved. In speaking of the results in cases wherein adenoids had been the cause of ear trouble, **MacKenzie** said, in 1888, that 100,000 people would have been helplessly deaf if the adenoids had not been removed, and aurists know how many children are brought to them, because the parents notice that the children are hard of hearing.

We know to secure good results that it is of great importance to see a patient and place him under treatment as early as possible. This is imperative in diseases of the ear. I wish to emphasize this point particularly when the ear is associated with general diseases. Children very often come too late for our treatment to be effectual. One author reports that out of 820 acute cases 513 or sixty-two per cent. have been cured, but out of 1,498 chronic cases only 340 or twenty-three per cent. If you consider what it means to a patient affected with acute inflammation of the middle ear, whether it can be properly treated at an early stage or not, and how much can be accomplished in many cases by timely and proper attention, you will understand why LUCAE, in Berlin, said that he could make use of a comparatively larger hospital for ear patients than he has at his disposal. I repeat, in a great variety of cases, there can be done a great deal for the function of the organ or even for the life of the patient. Many a patient has been saved who unquestionably would have died, in earlier times, due to his ear trouble. You are familiar with the progress of aural surgery and its good results.

However, the early diagnosis requires special training, and the treatment requires special skill and experience. Much harm can be done by improper treatment. I wish to call your attention to the abuse of the air douche, of massage and to the fatal results at times following attempts to remove foreign bodies. The difficulties in the operations on the ear are explained by the delicate structure of the organ and by the presence of important parts, of which I only mention the lateral sinus, the facial nerve, the semicircular canals and the dura. It might be recalled that the "radical operation" of the ear was first done by the general surgeon, but it is due to the efforts of the aurists that this operation has been deprived of its dangers.

The examination of the ear is very important for making a differential diagnosis in a great many diseases.

I have shown the position of otology, its necessity, its usefulness, and touched upon its difficulties. I hope you agree with me that otology offers a special field for study and that it requires men who give their entire time, energy and perseverance to it, or in other words, it can only be practiced satisfactorily by aurists, as it is done in the East and in other countries. It goes without saying that every practitioner is supposed to know something of the diseases of the ear, so that he can give a preliminary judgment about a case by virtue of the knowledge which he acquried during his college course. However, it must be remembered that short courses in otology, as BLAKE says, afford only a little knowledge and enable the superficial student to assume that he has acquired an ability in special practice, which could really be obtained only through long and serious study. We all agree with WALB when he says in a similar way, that the amateurship and quackery in otology is caused by the courses in which a practitioner gets only a general idea of the specialty. It would be advisable that a specialist be allowed to practice as such, only after having passed an examination in his field. This has recently been rigorously advocated by a professor in Germany. On the other hand, when we consider that the disturbances in the ear are in close relation with those of the general system or single organs, we must ask from the aurist that he always remember that his specialty, like all others, is only a branch of general medicine. Allow me to quote the wise words of VIRCHOW on the subject. Some time ago, he said: "Within twenty-five years the great host of specialties have developed; and it would be vain, anyhow fruitless, to oppose this tendency, but I think," he continues, "I ought to mention it here and hope that I shall be certain of approval when I say that no specialty can flourish which separates itself entirely from the common course of science, if it does not take other specialties into account, and if all specialties do not mutually assist one another."

The progress of science involves changes. Changes do not come by themselves, but they have to be inaugurated by those who are convinced of the fact that the present conditions can and must be made better. No one can appreciate this more than the medical profession who has insight into the dangers and troubles threatening and befalling the human race. Let us hope that the specialty of diseases of the ear, like all other branches of general medicine, may be benefited by the improvement of medical education, which all of us desire to come.

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32 Adams Avenue West.

MASTOID DISEASE.*

By H. J. HORNBOGEN, M. D., Marquette, Michigan.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

To touch upon all the points relative to this disease would necessarily imply a lengthy discourse upon the anatomy, morbid anatomy, symptomatology and treatment which is not within the province of a short paper. Hence, I will confine myself to a few points of paramount importance in that form of disease which is most common, and which is due to an acute or subacute suppurative process of the middle ear.

Acute purulent otitis media is usually a sequel of one of the acute infectious diseases, and is very often looked upon as a simple trouble which runs a self-limited course and requires little or no treatment. Very often we find the patient combating the trouble with some antiseptic solution to be used in a syringe, which is wholly inadequate for the purpose. My limited observation has led me to conclude that if these diseases of purulent trouble were carefully attended to, as they should be, disease of the mastoid bone would be of much less common occurrence.

The points which should be emphasized in connection with mastoid disease were very clearly outlined in three cases which came under my care in the past few months.

Case I.—Ethel H., aged four years, was brought to my office for treatment on March 12. Patient had a purulent discharge from the right ear, of three weeks' duration, following a case of varicella. Otoscopic examination revealed in the external auditory canal, swelling of the posterior and superior wall of the canal, redness of the membrana tympani, swelling and inflammation over the mastoid bone, with tender spots on pressure. Temperature 99.5°.

The patient was prepared for operation, and on March 13 under chloroform

*Read before the Upper Peninsular (Michigan) Medical Society.

anesthesia, an incision was made from the tip of the mastoid process close to the auricle to a point just above the meatus. After elevating the periosteum the lips of the wound were retracted. Upon examination of the bone a sinus was found leading into the antrum. The opening was enlarged with chisel and mallet, and all parts thoroughly curetted. The wound was irrigated with bichloride solution, one to five thousand, and packed and dressed with iodoform gauze.

March 14: Patient slept well during the night and was resting comfortably. Temperature slightly above normal.

March 15: No change in the condition of the patient. Temperature about 99°.

March 16: Wound dressed. No reaction. Temperature normal. From this time on the wound was dressed every other day. In three weeks the sinus had closed and hearing was just a little less than normal.

Case II.—MARTIN F., aged sixty-seven years. Farmer. He had been treating with his family physician several weeks for an acute suppurative otitis media of the left ear. The case was referred to me December 16, 1897. On examination I found the patient fairly well nourished. There was an edematous condition of the lower limbs, and complaint of deep-seated pains over the mastoid region, with tender spots on pressure. There was very little swelling of the soft tissues. Temperature slightly above normal. Otoscopic examination showed a swelling of the posterior wall of external auditory canal and the presence of pus. The membrana tympani was hyperemic but not well seen. The ear was syringed with warm bichloride solution one to five thousand, and aristol insufflated.

Not wishing to temporize, the patient was removed to the hospital and prepared for an operation for the following day, December 18. After etherization an incision was made from a point one-half inch below the tip of the mastoid in a line close to the auricle to a point directly above the meatus. The periosteum was elevated and retractors applied. The surface of the bone looked smooth and normal. With chisel and mallet an opening was made into the mastoid cells, pus presenting in the wound. With the probe two sinuses were found, one of them leading to the tip of the mastoid. After enlarging the opening to insure free drainage, and thoroughly curetting, the wound was irrigated with bicloride, one to five thousand, and iodoform dressing applied.

December 19: The patient is resting well. No pain. Temperature slightly above normal.

December 20: Condition the same. Slight temperature.

December 21: Wound dressed; healing nicely. From this date the wound was dressed every other day.

January 19: The sinus is completely closed. Hearing about normal.

Case III.—February 16, in consultation with DOCTOR HARKIN I saw JOHN L. After a siege of enteric fever the patient developed an acute purulent otitis media of the left ear, which was treated with antiseptics. Patient complained of a deep-seated pain over the mastoid region and side of the face. The tissues over the mastoid process were slightly inflamed and muggy. Tender spots on deep pressure. Temperature, 99.5°. Otoscopic examination revealed muco-pus in the opening of the external auditory canal—posterior and superior wall swollen; tympanum hyperesthetic.

Being convinced of the presence of pus in the mastoid antrum, we prepared the patient for operation.

February 18, under ether narcosis, I made the usual incision over the mastoid process. On examination the bone appeared normal. With chisel and mallet the mastoid cells were opened, and a thick yellowish pus presenting itself, the opening was enlarged to insure free drainage. All diseased bones thoroughly curetted, wound irrigated with sterilized water and iodoform dressing applied.

February 19: Patient complains of considerable pain at the seat of operation. Had rested very poorly during the night. Temperature 102°.

February 20: Patient complains of great pain. Temperature 100°. The dressing was removed and considerable pus found in the wound and the external auditory canal. The parts were thoroughly irrigated with formalin solution, one to one thousand, and iodoform dressing applied.

February 21: Patient had rested better during the night. Some pain. Temperature 99.6°.

From this date the wound was dressed every other day.

May 16: Sinus entirely healed. No deformity; hearing about normal.

It might be asked why the leech and ice-bag were not employed in these cases before resorting to such radical measures as an operation at the first sign of mastoid trouble. There is no doubt of the efficacy of the leech and ice-bag as a curative factor, but when the disease has already progressed and we find (1) a swelling of the posterior wall of the external auditory canal, (2) tender parts on pressure over the mastoid region, (3) deep-seated pain with slight redness and a swelling over the mastoid process, (4) elevation of temperature—the indications for operation are imperative.

A CONSIDERATION OF SOME OF THE EFFECTS OF CERVICAL LACERATIONS.*

By W. P. Manton, M. D., Detroit, Michigan.
PROFESSOR ADJUNCT OF OBSTETRICS AND PROFESSOR OF CLINICAL GYNECOLOGY IN THE DETROIT COLLEGE OF MEDICINE; GYNECOLOGIST TO THE EASTERN AND NORTHERN MICHIGAN ASYLUMS FOR THE INSANE; CONSULTING GYNECOLOGIST TO SAINT JOSEPH'S RETREAT, ET CETERA.

[PUBLISHED IN The Physician and Surgeon EXCLUSIVELY]

Every primiparous woman delivered of a child at term sustains a greater or less injury at the lower orifice of the uterine neck. This traumatism may amount to only a slight fissure of the os tincæ; it may reach to the so-called crown of the cervix; or it may extend beyond this limit to the deeper tissues of the cervix, involve the vaginal junction and penetrate to the layers of the broad ligament.

What of the future in cases of such accident?

In the first place it may be stated as a fact that the large majority of lesions of this kind occurring in healthy women at aseptically conducted labors, and with proper after care, the laceration, even to the extreme limit, heals perfectly and gives rise to no further inconvenience. Examination of such cases at from six weeks to two months following delivery will discover no lesion of the cervix beyond the slight widening of the external os indicative of parturity.

In a certain proportion of cases, healing will have apparently taken place in the greater extent of the wound, but the approximation of the torn surfaces having been imperfect, the interstices are filled in with plastic material which subsequently changes to connective tissue, and forms a firm plug within the softer elements of the part. Or the wound, partially healing above, leaves below a wide excavation which will admit the tip of the finger or even the first phalanx; or uniting below at the mouth, a widened or chambered condition of the cervical canal remains below.

In another small percentage of cases, generally in the presence of mild septic infection, the ruptured cervix apparently makes no effort toward the reestablishing of its integrity; the surfaces remaining in comparative apposition as long as the patient continues in the recumbent position, but with the assumption of the erect attitude a gradual separation of the lips takes place with resulting ectropium.

The consequences of these various forms of unhealed or partially healed lacerations may be classified as immediate and remote.

Every wound of the parturient tract increases the tendency to septic infection at the time of labor and during the lying-in period; especially is this true when the injury is situated in the vicinity of the lymphatic vessels which have enlarged and become more active under the stimulus of pregnancy. Hence, deep lacerations of the cervix are a menace to normal puerpery. Infection taking place at this point may develop within a few days as a general or localized peritonitis, usually the latter; it may manifest itself in inflammation of the cellular elements of the broad ligaments, with or without subsequent abscess formation; or it may be at first confined to a limited area, as a phlebitis of the uterine veins, which later extending to the veins of the leg shows up in phlegmasia.

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*Read before the Wayne County (Detroit) Medical Society.

In milder grades of infection the inflammation may affect only the lining of the uterine cavity, a chronic catarrhal condition remaining, and this passing onward through the tubes gives rise at a later stage to salpingitis and oophoritis. It is safe to say that nearly if not all cases of unhealed lacerations of the cervix uteri which present to the gynecologist for treatment, are the outcome of one of two causes, and generally of both; either septic infection during or immediately following delivery, or a too early getting up from the lying-in bed. In deep rents extending well up into the cervical tissues, the circular artery of the neck is often torn across, occasioning severe and sometimes serious hemorrhage which can only be controlled by a stitch passed around the bleeding point.

None of the immediate results of cervical laceration manifesting, and the puerperium having passed in a supposedly satisfactory manner, the woman leaves her bed, generally too early as I have remarked, and begins anew the struggle for existence, but too often handicapped. The unhealed cervical tear has prevented normal retrogression of the uterine tissues and a greater or less subinvolution of the parts persists. This gives rise to the pelvic soreness, pains and weight, the inability to walk because of the feeling of lost support, and the patient takes to her bed again, usually with the idea that she has overdone, taken cold, or that "inflammation" has set in, and remains a semi-invalid for weeks, months or even years until the true source of all her sufferings is fortunately discovered and appropriately removed. Possibly the patient may get up well, perhaps has never felt better in all her life, and enters upon the joys of maternity with a feeling of gratitude for robust health. But in course of time, the drain of lactation, the demands of social life, and the resumption of marital duties, begin to throw a shadow over the brightness of existence; there is an indescribable feeling as of something wrong, and gradually a train of pelvic symptoms arise, local aches and pains, vaginal discharge, too frequent or too profuse menstrual loss, with increase of all the sufferings at this period, until the despairing sufferer is driven to the doctor for relief.

Or perhaps long years may pass without the presence of the cervical defect becoming manifest, and the patient may retain her wonted health. There comes a time, however, when extra strain is placed upon the organization, the nervous system is called upon for a larger expenditure of force, sleep is denied, the nutritive functions become deranged, and somatic health begins to suffer and to flag. Then it is that the cervical deficiency first begins to show its presence and active local and reflex phenomena exert their influence in the general overthrow. From my own observations in the treatment of this class of cases I am led to believe that insufficient importance is credited to the reflexes which may result from old and unhealed cervical tears. There seems to be no part of the body which is not reached, and no function that may not be perverted and deflected from its normal course through the agency of this morbid control. The eyes are very often affected, and burning, pain, weakness of vision, and eye-strain are frequently met with. Neuroses of the nose and throat are common occurrences. Through the kindness of my friend DOCTOR E. L. SHURLY, I have had the opportunity of examining a number of patients who have applied to him for relief from disorders of supposed nasal, pharyngeal, or laryngeal origin, but in whom these parts were found to be in comparatively normal condition, the true source of the affection being located in the womb. ANDERSON has recently reported (*Harper Hospital Bulletin*, 1898, page 110) a case of long continued asthma which yielded to no treatment until a laceration of the cervix had been repaired, when the cure was prompt and lasting.

The heart often participates in the general derangement of the organs, palpitation and irregularities of the cardiac beat being most commonly noticed. The well-known relation of functional stomach affections to uterine disorder is never better exemplified, outside of pregnancy, than in connection with this lesion.

The nervous system, as mentioned, is often profoundly affected, and mental alienation has been thought to be one of the more serious sequelæ of this condition. From a somewhat extensive experience in the gynecological disorders of insane women, I am prepared to state that I have never yet seen a case of mental derangement which could be traced directly to this cause. But given a combination of conditions such as I have already mentioned—a depraved or shattered state of the nervous and general systems—the cervical lesion plays an important role, and possesses great potentialities for evil in keeping up the psychic malady. In many cases little hope for cure of the mental trouble can be entertained unless the local disorder is first attended to. It has been my good fortune to see the mental health of a number of insane patients gradually restored following operative procedure upon the cervix, and, in cases of puerperal insanity especially, it is the rule at the Eastern Michigan Asylum never to dismiss a patient as cured until this operation, when indicated, has been performed. In most cases, however, I am inclined to look upon the surgical procedure as only one of the factors at work in the accomplishing of a cure; the rest, nursing, good food and general treatment contributing each its share toward the ultimate result.

Treatment.—As regards treatment it is evident that but one thing is necessary and that the restoration of the lacerated parts. Nature accomplishes this in the great majority of cases. All immediate interference on the part of the surgeon-accoucheur is to be deprecated and condemned. Directly following labor the tissues are in no condition for proper suturing, the dangers of infection are thereby increased, and possibly an unnecessary annoyance to the patient is thus perpetrated. Several months should ordinarily elapse before operative measures are resorted to. In cases of long standing, especially when there is much congestion, preliminary local treatment extending over a period of weeks, should always be undertaken to insure the best results from operation. It is often the neglect of this putting the parts into the best possible condition before the operation that gives rise to so many disappointments subsequently.

When the patient's nervous system is considerably implicated and general somatic conditions are seriously affected, a course of tonic treatment, together with massage and general Faradism will be found to be of the greatest benefit, and should be continued until the bodily condition is brought up to a point approaching the normal.

Finally, as to the operation itself: Trachelorrhaphy is not, as a rule, the simple operation which is pictured in the books. The superficial denudation of the lacerated lips of the cervix can be readily accomplished, but this is not what the usual run of cases demand or should be accorded. As my own experience increases with this operation, I am more and more inclined to think that the properly executed procedure for the restoration of the lacerated cervix is more difficult in accomplishing than many of the abdominal operations which we are acustomed to perform. The operation cannot be done hastily or carelessly if we have regard to the patient's future welfare; it is no five minutes' surgical pyrotechnics, as some operators who have written on the subject would seem to have us believe. Its execution demands skill, experience and conscience on the part of the surgeon who undertakes its performance. The ramifying processes of cicatricial tissue must be followed up by the scissors and carefully dissected out; the healthy tissues must be spared or so removed as to give rise to the least subsequent deformity; asepsis throughout must be thorough and complete.

In the foregoing remarks I have attempted to partially group some of the untoward conditions which may result from laceration of the cervix uteri; but it must not be understood that there exist hard and fast lines which separate symptoms, or that chronic conditions may not often present manifestations which also occur in the acute. My sole object in bringing this subject to your attention is to remind you that these lacerations are formidable accidents of the parturient act; that they may lead to great physical suffering and to mental undoing; and I would earnestly urge upon every physician the paramount importance of attention to this often neglected obstetric lesion.

32 Adams Avenue West.

TRANSACTIONS.

DETROIT MEDICAL AND LIBRARY ASSOCIATION.

STATED MEETING, MAY 23, 1898.

The Vicepresident, EDWIN G. KNILL, M. D., in the Chair.

Reported by P. C. McEWEN, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor H. E. Safford read a paper entitled "The Present Status of the X-Ray in Diagnosis." (See page 538.)

Doctor F. B. Walker: I have had no personal experience in connection with the use of the Roentgen ray in diagnosis, and yet I fully recognize its value. It is evident from what we have seen in literature as well as from the paper read this evening that its application in medicine is far more promising than at first appeared. It was applied chiefly to surgical conditions at first, but its use in demonstrating pathological conditions in the thorax, abdomen and brain gives promise of still greater value. I was quite interested in seeing its application in a certain case at the Philadelphia polyclinic. A patient with a fractured leg had been referred to Doctor Stern at the polyclinic, but on account of his absence the case was turned over to Doctor Steinbach. He put the limb up in splints and as he thought apposed the ends of the broken bones. He invited Doctor John B. Roberts to see the case with him and both seemed satisfied with the condition in which the fractured limb had been set. Upon the return of Doctor Stern, out of curiosity or for some other reason, he had taken a Roentgen ray view of the injured limb, and found that instead of the bones being apposed the upper fragments had both slipped over the lower ones and were also turned out showing them as far as possible from the correct position. That case illustrated to my mind very forcibly the value of the Roentgen ray in such cases.

Doctor Hitchcock: I have had no practical experience with the Roentgen ray as a means of diagnosis. In Doctor Herdman's clinic in Ann Arbor I saw a demonstration of the rays by the different sources of energy such as the static machine, the Tesler apparatus, and the induction coil. I do not think any one knows yet just what the Roentgen rays are. I believe there are cases wherein the damage attendant upon their use has been very serious. It seems to me that this method of determining diseased conditions opens up a wide field of usefulness.

Doctor Miner: I have listened with much interest to the paper of the evening. Just what the limitations of the X-ray will be ultimately it is difficult to state. I have been interested in the papers written by Williams of Boston, as mentioned by Doctor Safford, in regard to thoracic diseases. I had two cases myself of well marked consolidation of the upper lobe of the lung and had them subjected to an X-ray examination and with no results whatever. We could get no skiagraphic tracings except of the ribs. Likewise of diseases of the blood-vessels. I had a case of aneurism of the carotid. A skiagraph showed no indication of an aneurism being present. We might be able to use this as an aid to diagnosis in our general work but the expense is too great for one individual to follow the work out. I think the medical societies should interest themselves in considering the question of providing an apparatus for having X-ray photographs taken.

WAYNE COUNTY MEDICAL SOCIETY.

STATED MEETING, OCTOBER 20, 1898.

THE PRESIDENT, ROBERT H. HONNER, M. D., IN THE CHAIR.

REPORTED BY WALTER J. CREE, M. D., SECRETARY.

DISCUSSION OF PAPERS.

DOCTOR MANTON read a paper entitled "A Consideration of Some of the Effects of Cervical Lacerations." (See page 559.)

DOCTOR HISLOP: I have seen quite a number of these cases and am inclined to think that if more pains were taken to repair this injury in a proper manner, many women would be saved a deal of suffering. I recall the case of a lady who consulted me for throat trouble. Treatment was unsuccessful and I referred the patient to DOCTOR SHURLY who pronounced the throat affection of secondary nature and advised her to return to me and undergo a thorough physical examination. I found a slight cervical laceration with accompanying endometritis. The patient was curetted and the uterus packed with iodoform gauze and the throat trouble has entirely disappeared. The uterus should be curetted and swabbed out with iodine or carbolic acid before the laceration is repaired.

DOCTOR W. C. STEVENS: There are a large number of symptoms presented to the general practitioner which are difficult to trace to the primary cause. A very important symptom is headache. I recall a case of chronic headache wherein there had been a cervical laceration, operation and poor result. I operated again, practically removing the entire cervix. There was a large amount of cicatricial tissue. The result of this second operation was good, only a few slight headaches having occurred during the past five years. I cannot see how the immediate operation can be done when the conditions are so unfavorable. I would wait until the parts are in better condition. I saw one case of immediate operation wherein union did not take place, the cause of which I do not know.

DOCTOR JUDSON: I do not think any of us should be excused from saying something on this very important subject even if we cannot enlighten. I have a case at present wherein there is intense headache at the base of the brain. The patient is of a nervous temperament and is only relieved by hypodermics of morphine. I shall examine the uterus and see if the cause of the trouble is there. I have had the opportunity of examining the cervix uteri in a number of cases operated upon by distinguished surgeons wherein the result was a lamentable failure.

DOCTOR POLOZKER: I have had patients refuse the operation because they had heard that the operation was not a success in some cases and that lacerations could be cured by local treatment. It is not necessary that an extensive laceration should be present to produce reflex troubles. Sometimes a slight abrasion of the endometrium may be the cause. I believe the operation should not be done inside of one month after confinement.

Doctor Bassett: I recall a case of severe palpitation of the heart due to cervical laceration. The patient refused operation and would only be treated locally, when her condition would improve. I would also give her tonics and in a short time she would be in pretty fair condition and then neglect treatment. After she would run down in health she would consent to an operation, but refused after the beneficial results of preparatory treatment.

Doctor Gordon: Very often reflex troubles do not depend upon cervical laceration, yet when they do I have often seen good results follow an operation.

Doctor E. B. Smith: I think some cases should be operated on immediately, especially when the circular artery is torn. I consider it good surgery, if it relieve the woman from septic exposure. I believe we expect nervous symptoms to clear up too soon after an operation. I am sorry the doctor did not go into the details of the operation.

Doctor Honner: I have seen cases treated locally and with poor results indeed. The operation of trachelorrhaphy is a very beneficial one. My friend, **Doctor Hobbs**, of the London (Ontario) Asylum, has made a special study of the subject in insane cases and with happy results.

Doctor Cree: Is it not a fact that a large percentage of lacerations heal spontaneously? If so, what is the necessity of an immediate operation. Of course, if the circular artery is torn the conditions are different, and then one stitch will control the hemorrhage. Again, a woman may have a laceration and never experience any trouble. It might, however, be a starting point of malignant disease. I believe the operation should be done very carefully and at a suitable time after miscarriage or labor. I do not think that the doctor intended to speak of operative procedures in his paper.

Doctor Manton: Every case does not need operation and every symptom cannot be cured by operation and it is unwise to promise too much. Cases should be selected and given proper preparatory treatment. I have never seen a case wherein some improvement was not noticed. The uterus should be curetted before the laceration is repaired. I did not, as **Doctor Cree** stated, intend to speak of the operation itself. The cervix is always lacerated more or less at full term in primiparæ. I should say that about eighty-five per cent. heal spontaneously. When treating throat or other trouble lasting a long time it is a good idea to examine the uterus, as it may be a factor in the case. I do not approve of the immediate operation. If the circular artery is torn one stitch will be sufficient to control the hemorrhage.

STATED MEETING, NOVEMBER 10, 1898.

The President, ROBERT H. HONNER, M. D., in the Chair.
Reported by WALTER J. CREE, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Amberg read a paper entitled "Diseases of the Ear as a Specialty." (See page 552.)

Doctor Gillman: The doctor's paper is a very valuable one. A few years ago the general surgeon operated on the mastoid and the brain, but now this field is almost exclusively the aural surgeon's. One great trouble in treating ear disease is in holding the patient. I always have an understanding as to the time and probable results of treatment. I promise nothing but only say that I hope to improve the condition. I have held patients for several years who are perfectly satisfied to treat continuously to hold good what they have.

Doctor Bacon: Specialism hurts general practice. I do not believe that the general practitioner cannot successfully treat ear troubles.

Doctor Manton: In puerperal fever we are liable to encounter deafness also in some cases of normal pregnancy. I would like to ask the doctor the relation between the uterus and the ear.

Doctor Amberg: The relation is reflex. That is about all that can be said about it.

Doctor Kestell: For three years I was very deaf. I consulted eminent specialists here and elsewhere with little encouragement and no improvement. Oculists, by the way, regard the ear as a side issue. They are greatly concerned about the eye but in dealing with the important organ of hearing they are grossly negligent. I am glad to see more attention paid to otology as a specialty. I made a study of my own case and in three months was better, and can only thank myself.

Doctor Hickey: If the physician is capable of making a correct diagnosis he should be able to treat the trouble whatever it may be. The proper diagnosis of ear troubles is somewhat difficult.

DETROIT ACADEMY OF MEDICINE.

STATED MEETING, SEPTEMBER 27, 1898.

The President, DAVID INGLIS, M. D., in the Chair.
Reported by H. D. JENKS, M. D., Secretary.

DISCUSSION OF PAPERS.

Doctor Charles W. Hitchcock read a paper on "The Spasmodic Nervous Diseases, with a Report of Two Cases." (See page 546.)

Doctor Metcalf: This paper opens up a broad subject, which should have remarks made upon it. The fine distinctions and assorting of symptoms is commendable but often more time is spent in collecting these than in viewing the whole organism. The majority of peripheral irritations may produce any and all of the symptoms here presented. If you can find the cause, remove it, for changes in the central nervous system occur later which nature is inadequate to overcome. I recall a number of cases similar to those reported, but shall have to give them from memory. A woman of thirty, about nine years ago continued to flow for about five months and then was delivered of a three months' macerated fetus. After this trouble she began to have nervous symptoms, and a marked metritis. For example, a sound passed into the uterus would produce contractions of the muscles of the neck. The troubles increased until three years later she had almost lost the use of her legs. A hysterectomy was done, followed by improvement for a time, and then came a relapse: Now she has the nervous trouble only when she is excited or fatigued. One may have twitching of the muscles of the face from hemorrhoids. When the hemorrhoids are removed the twitching ceases. A thorough examination of all parts of the body should be made in the beginning of these attacks.

Doctor Tibbals: While I am not competent to discuss the paper, I find it to be a revelation of how little I do know. It seems to refresh the vocabulary with new terms. I should think that the list of spasms was complete, as it seems to cover all possible ones. I should heartily agree with Doctor Metcalf's remark that a careful examination of all organs should be made in these cases, for we may find in the internal organs some source of irritation.

Doctor Hitchcock: I feel free to confess my shortcomings in leaving the rectum unexamined. I should like to know that there was no pile there. Habit tics are common. There is a question whether this girl does not come under the habit tic. Her condition is somewhat allied to the "jumpers." This group is not so profitable to study for treatment but it is, nevertheless, an important group to distinguish.

EDITORIAL ARTICLES.

WHEN DOES ALCOHOLISM BEGIN?

As generally understood alcoholism refers to the pathological conditions, changes and symptoms caused by the immoderate consumption of alcoholic liquors. Owing to the various uses of the terms immoderate and intemperate, there is necessarily some confusion of ideas and more or less variance of opinion regarding the beginning of the alcoholic state. For instance, the periodic drinker is not considered immoderate in the sense that any pathological changes have taken place, in the interim between his debauches, since he quickly reforms, perhaps abhors liquor, and to all appearances assumes his accustomed manner of life. The steady user of spirits is also considered moderate so long as his appearance and conduct show no apparent irregularities. In each case, however, close observation will, in the majority of cases, disclose strong evidences of this disease. In the first instance the impulse to drink and to get it at any cost, viewed by the moralist as a mark of moral depravity, and regarded by the law as a willful gratification of the passions, is the symptom of a morbid condition, either inherited or acquired, the possibilities of which are as real as in the other insanities. On account of the insidious and designing manner in which this craving operates the result is frequently regarded as an accident or coincidence, while in reality it may often be traced to a morbid source. The periods between the debauches vary in different cases from a few weeks to even years. The morbid impulse lies meanwhile as if dormant, but like the instinct of the migratory bird, will at the appointed time impel obedience to its mandates.

Since a single draught of alcoholic liquor perceptibly affects not only the physical but also the mental system, it is incomprehensible how the steady use of it can fail to produce distinct pathological effects. Without reviewing the evidences of the postmortem table, which are quite familiar, it has been found by close study of these cases that mental and moral degenerations and changes have been produced that had not been previously suspected. On account of the routine of business and domestic life which has been acquired through time, and as long as the conduct continues automatic there may be recognized no signs of change. A comprehensive view of the whole life and a closer study of these individuals under other conditions, however, would reveal evidences of mental feebleness and peculiarities otherwise unaccountable. While the proofs of the alcoholic condition are not always and easily demonstrable, there is reason for believing that the onset is earlier than we are wont to suppose. On account of our inability to determine the extent of the degeneration in either case, of the two the continuous user of spirits might be expected to have suffered the more derangement, and this is borne out in practce since it has been found less easily restored than the periodic consumer. Doctor Crothers included his opinion with others when he said, "The experience of many persons confirm the statement that no moderate use of spirits is compatible with health or mental soundness, and moderate drinkers may be called in many cases veritable inebriates."

THE CARE OF THE INSANE.

In spite of the enthusiastic support which some of the systems receive, the proper care of the insane may still be said to lie in the experimental stage. In Michigan these patients, both acute and chronic, are for the most part cared for in State institutions directed by a State board, but under the immediate superintendence of a medical staff and attendants after the hospital plan. There are, however, a few smaller private institutions in which the same general care is given. The county system, so zealously advocated in Wisconsin, has been adopted in one Michigan county, that of Wayne, but with one important addition, namely, medical superintendence. The per capita cost in the last named institution is lower than in any of the others, and the work done has received well merited commendation. The State institutions are most capably managed, and reflect the greatest credit upon the people of our commonwealth. They or the State, however, are subject to severe criticism for not making more ample provision for this ever increasing class of patients.

The acute cases of insanity in Wisconsin are placed in one of the two State hospitals. Those pronounced chronic and incurable are transferred to the several (twenty-five) county asylums, where it is claimed they are satisfactorily provided for. On the occasion of a visit to these asylums Doctor Burr made inquiries and noted the conditions as they appeared to him. His conclusions were in the nature of objections to the county asylum system, based upon—*

(1) Absence of the hospital idea.

(2) Lack of medical oversight.

(3) The inadequate care of patients, particularly of the filthy and feeble classes and epileptics.

(4) Lack of sufficient attendants, which necessitates patients remaining too much indoors, particularly in the winter time.

(5) Lack of standards of care prescribed and enforced by central authority superior to politics, as shown in the extreme variation in per capita cost, and differences in beds, furnishings, attendance, et cetera.

(6) Lack of efficient state supervision.

(7) Frequent lack of discriminating local supervision, this due chiefly to absence of knowledge of the requirements of the insane, and the desire to make favorable financial showings to boards of supervisors.

CHRISTIAN SCIENCE AND MEDICAL PROGRESS.

As long as there is room for progress in science and art we may expect to be confronted with false theories and practice. We shall have continually thrust upon our attention and judgement the semblances of truth and may expect to be victimized if we participate in them. The more closely they concern our vital interests the greater social importance they develop and the more serious the consequences to us become.

When, in 1866, a Mrs. Eddy first phrased her philosophy as "Christian Science" it had meaning for only a very limited circle. Thirty years have passed. Classes, institutes, colleges, and magazines attest its growth. Her adherents in this country alone are said to number two hundred thousand. It has spread beyond our boundaries. The circumstances of Harold Frederic's death announced its presence and activity in England and strongly aroused a righteous indignation. The court will no doubt mete a just retribution upon the offenders, but Christian Science and its congeners will continue to thrive until the people generally learn some fundamental truths long ago realized by the medical profession. The people must unlearn the superstitions of drugs and mock curative powers. They should understand as we do that in a large proportion of cases recovery is due to the *vis medicatrix naturæ* and not to drugs or other remedies; that in many cases so-called remedies are useless and may be harmful. That remarkable recoveries reported as due to "Faith Healing," "Christian Science," and "Mind Cures" have occurred is doubtless true but they have been duplicated many times over by others equally remarkable, the results of mental states and nature's own curative powers. The people should be made to realize the truth of these facts as do we even though they be not minutely explained. The mental states and confidence of patients, helpful in regular and essential in quack medical practice, may be and are more securely won by the scientific methods of diagnosis and treatment which medical progress has unfolded.

**The American Journal of Insanity*, Volume LV, Number II.

The physician and surgeon of the future is to be less a "medicine man," free from all charlatanism, and more a conscientious, painstaking medical advisor, now giving and now withholding remedies according to positive needs and definite ends. We should not fear the growth of Christian Science nor be anxious for truth. We should, however, be more aroused to the diffusion of true knowledge lest those in whom we are interested become sacrificial offerings upon the altar of ignorance and superstition.

ANNOTATIONS.

PERITONEAL INFECTION OF OPERATIVE ORIGIN.

Our ideas as to the vulnerability of the peritoneum have wonderfully changed. This great covering has given evidence of great physiologic activity in the absorption of large quantities of saline waters and frequently of effusions. Clinincal studies have suggested a possible immunity residing in the peritoneum to microbic infection through operative interference. That this is true and occurs more often than we suppose is indicated by the experiments recently reported in *La Revue Medicale* by AUCHE and CHEVANNAZ of Bordeaux. Of five cases two were total abdominal hysterectomies for fibromata, one an ovariotomy for cyst of the ovary and two laparotomies, one for tubercular peritonitis, the other for contusion of the abdomen. These operations were performed with all aseptic precautions and were followed by recovery. In tw cases fluid was present on opening the abdominal cavity; in the others n fluid was present. In the former a few drops were taken up at once and cultures made. Cultures were also made from a few drops of bloody serun obtained by aspiration at the close of all the operations and from the fluic removed by aspiration through rubber drainage tubes used in certain cases. In all the cases the fluid withdrawn at the end of the operations were reported to have grown the staphylococcus albus. Infection was due to the operativ acts since the fluid removed on opening the cavity was shown to be sterile. In the three cases in which drainage was established the fluid aspirated three to five days after the operation gave cultures twice of staphylococcus albus and once of both staphylococcus albus and staphylococcus aureus. These studies are both interesting and instructive, illustrating both the liability to infection and the possibility of its benign character.

LATENT GONORRHEA.

THE dispute over the positive curability of gonorrhea will no doubt be long continued in spite of the one case to the contrary. Although somewhat longer periods than the following have been reported, yet the case related (*British Medical Journal*) by DOCTOR R. MILNE MURRAY before the Edinburgh Obstetrical Society is interesting as corroborative proof. The father of three children, he stated, had gonorrhea three years before marriage and eight years before the birth of the third child. At that time he was supposed to have been cured. The first two children were perfectly healthy. The third was born during a short and easy labor, and healthy. There had been no vaginal discharge at any time. On the third day a severe purulent ophthalmia began in the left eye, and in the right on the seventh day. The treatment given consisted of corrosive sublimate solution 1 to 4000, and nitrate of silver solution, first of ten grains to the ounce and later of seventy grains to the ounce. The author remarked that there had been no symptoms of any kind and at any time in the mother, that the first two children had escaped infection, and that there was on sufficient personal knowledge no reason to doubt the parents' veracity.

CONTEMPORARY.

MEDICAL NOMENCLATURE.

[THE MEDICAL RECORD.]

THE average worker in any scientific line apparently has not the time or the inclination to devote himself to the classics, at least enough of them to enter into word-building without encountering difficulties, and he often produces an etymological monstrosity when he names the products of his scientific brain. To the reader or the hearer who has some regard for accuracy in the formation and use of words, such combinations as "radiograph" are apt to give a shock. If such an observer remonstrates, he is likely to be called a purist in a somewhat sarcastic tone, and is certain to be thought "affected." There is, of course, no reason that new medical and scientific facts should not receive a properly constructed designation from the point of view of the etymologist, and it would be a good plan if they who may discover or invent a condition or a fact which they think requires a new name, would be sure that they are correct in their etymology, or otherwise consult somebody able to put them right. One of the first and most important rules which it would be well to follow, and one which is perhaps most often broken, is to avoid combining in one word roots or stems from different languages. "Radiograph" is a particularly flagrant example of violation of this very simple rule, especially as there is a good Greek word corresponding to the Latin word *radius*, which would make a perfectly sound combination with the latter half of the word. Moreover, the word does not really express clearly the idea it was intended to convey, and lately the much more appropriate term "skiagraph" has supplanted it to a great extent. Medical nomenclature is exposed to enough sources of contamination as it is, and when we can we should see to it that no unnecessary monstrosities survive. Usually when objection is made to one of these mongrel terms, an attempt is made to silence the objector on the score of the convenience of the term; but this is only another way of saying that those who defend such manufactures are ignorant or careless, and it emphasizes the desirability of attempting in the beginning to direct such things properly on the part of those who have had better opportunity or more inclination to gain the requisite knowledge. After a defectively formed term once starts upon its way, it is very difficult to prevent its general distribution, and as it is just as easy to form words properly as improperly and carelessly, it is worth the effort to keep our nomenclature as accurate as possible by care in launching new terms. There are already so many medical terms in common use now against which the above objection can be justly urged, that it seems almost hopeless to work against their retention in good usage; but a process of slow elimination might eventually rid us of the worst of them. There are so many of them that it is scarcely worth while to mention any, but two which will probably always be with us are "ovariotomy" and "appendicitis." The etymological objection to both of these terms is obvious, but their use is so frequent and of such long standing that to displace them is probably impossible. The most that we can really hope for is probably to induce the word formers to be a little more careful with their constructions, and also to restrict their production as much as possible.

MEDICAL NEWS.

THE ANTIVIVISECTION BILL.

The profession is reminded that a vivisection bill which is calculated to greatly hamper scientific investigation is pending in the United States senate, and the suggestion is made that the respective senators and representatives of every physician be communicated with and urged to vote against the measure. The joint committee on vivisection of the scientific societies of New York city recently sounded the reveille by resolving "That the secretary be authorized to call the attention of the prominent medical and scientific journals of the country to the importance of the meeting of the American Humane Society, to be held in this city in December *proximo*, and to request that editorial notice be taken of the danger that the influence likely to be exerted at that meeting may cause the vivisection bill now pending in the senate to be called up and passed."

THE ALVARENGA PRIZE.

Doctor S. A. Knopf, of New York City, has been awarded the Alvarenga prize offered by the College of Physicians of Philadelphia, in 1898, the title of the winning paper being "Modern Prophylaxis of Tuberculosis and its Treatment in Special Institutions and at Home." The next award is announced to occur July 14, 1899, when $180 will be given by the committee for an essay possessing satisfactory merit. Papers may be written upon any subject in medicine but cannot have been published before being deposited with the secretary, a requirement that must be met on or before May 1, 1899. A condition prescribes that signatures are not to be affixed to essays but that in lieu thereof a motto shall be adopted, the name and address of the writer to be transmitted in an accompanying envelope bearing a duplicate of the motto for identification.

A COLLAPSIBLE BATHTUB.

Doctor C. I. MacGuire, of New York City, has introduced a portable, collapsible bathtub for facilitating the Brand treatment of typhoid fever. It is made of a rubber sheet duplicated so as to form air chambers which may be inflated by an ordinary bicycle pump or from a cylinder of condensed air, and deflated in thirty seconds by opening four capped valves on the side. The water may be removed in less than one minute by discharge tubes in the bottom of the tub which are situated on either side and midway of its length. The tub is placed under the patient in the same manner that an exchange of sheets is made by a trained nurse. When inflated it is capable of resisting any pressure of water from the inside and immediately collapses on removal of water and air.

A UNIQUE ORGANIZATION.

Nashville has a new medical society entitled the Medico-Chirurgical Club. It is an unique organization in several respects. It has no regular president, each member officiating in that capacity for two successive months, the honor revolving perpetually. The select nature of the guild is evidenced by the exclusiveness of its membership, which is limited to sixteen. Meetings are held weekly, the first and third meetings of each month being dedicated to the reading and discussion of papers, and the second and fourth to clinics and reports of cases. An essay committee select the topics upon which papers are to be prepared, and a constitutional clause provides that every member be assigned to different divisions of medicine and surgery, each department to be pursued for one year and the observations recorded in papers as requested from the investigators during this period.

MINOR INTELLIGENCE.

Mexico has had a visitation of yellow fever. The grim destroyer recently announced its presence in Monterey and registered many deaths.

The Indiana Medical College, the medical department of the University of Indiana, was destroyed by fire November 25. While attempting to escape from the building Doctor Norman Shobe was severely burned.

Doctor J. Denys, professor of pathological anatomy and bacteriology in the University of Louvain, has announced the latest antitoxin for the treatment of tuberculosis. The constitution of the medicament is not revealed.

Doctor Vincent Gomez, recently of Brooklyn, New York, has been appointed mayor of Gibara, Cuba, the city in which small-pox has prevailed to such an alarming extent. The honor was conferred by General Wood.

The number of sanitaria specially dedicated to the treatment of consumption approximates one hundred. Forty-three of these humanitarian institutions are conducted in Germany, twenty in America, and the remainder in various other countries.

Doctor Delos L. Parker, of Detroit, surgeon of the United States Steamship Yosemite during the recent Spanish-American conflict, has resumed the practice of medicine, his offices and residence being located at 397 Jefferson avenue, formerly occupied by the late Doctor Lyster.

Malaria has another therapeutic agent to combat. Doctor Cardamatis of Athens, has prescribed methyl blue in two hundred and seventy-five acute and chronic cases of the disease and reports ninety-three per cent. of cures. Daily doses of ten to twelve grains were employed. A majority of the patients subjected to this medicament escaped recurrence of malarial symptoms.

The supreme court of Tennessee recently had occasion to consider the validity of the anticigarette law of that commonwealth and decided that cigarettes are beyond the province of legitimate commerce and hence are not contemplated in the provisions of the federal constitution regulating trade.

At the recent annual meeting of the Saginaw County Medical Society the following officers were elected for the ensuing year: President, Doctor Samuel Kitchen; vicepresident, Doctor F. W. Edelman; secretary, Doctor M. C. L. Kitchen; treasurer, Doctor C. W. Taylor Goodman. The secretary and treasurer were reelected.

The report of the provincial asylums inspector of Ontario has recently been made public. In summing up the etiology of insanity this official states that alchoholism does not figure very conspicuously as a factor, statistics showing that in five thousand cases wherein reason had been dethroned only thirty-five could be regarded as due to drunkenness.

Lord Lyster lately received the honorary degree of doctor of science of the Royal Victoria University, the occasion being the opening of the Thompson-Yates Laboratories of Physiology and Pathology in Liverpool, at which ceremony he delivered an address on the unity of science and practice and the need of raising the latter to conform to the accuracy and certainty of the former.

A new type of infectious fever, which was unknown to the profession prior to the reign of Weyler, is now prevalent in Havana. It was first discovered among the reconcentrados, and has therefore been termed "weylerism." Neither quinine nor any other treatment mitigates the course of the fever, and healthy persons who experience contact with the reconcentrado element quickly yield to the ghost.

The meeting of the Third PanAmerican Medical Congress which was announced to occur at Caracas, Venezuela, in December, 1899, has been postponed to meet in the same city in December, 1900. The change was occasioned by the calamities incident to war and epidemic, both of which have devastated Venezuela and sapped the energy of physicians to the extent of rendering them unfit to pursue scientific investigation at this time.

An epidemic of small-pox prevails in the district of Holguin, Cuba, more than five thousand cases being reported. The disease has had unrestricted sway for over three years, and in the town of Gibara half the inhabitants are infected. A hospital of one hundred and fifty beds has been established at Gibara, and with an ample supply of vaccine Doctor Woodson will contest further progress of the malady, which is of the virulent type.

Doctor Walker M. Brickner, house surgeon of Mount Sinai Hospital, has introduced a cervix-elevating attachment to the vaginal speculum. The device consists of a slightly concave metallic spatula, about three quarters of an inch square, which is fitted over the end of the speculum, beyond which it projects, by means of a cap. It is designed to expose the posterior portion of the vaginal roof, and plainly brings this region to view by completely removing the cervix from sight.

Following its ambulatory custom the Wayne County Medical Society me on Thursday, December 1, at Ypsilanti, where they were tendered a reception by the authorities of the Ypsilanti Sanitarium through their Medical Director Doctor C. C. Yemans. After a pleasant ride and season of conviviality nearly an hundred guests heartily partook of an elaborate menu, visited the baths inspected the various halls and apartments, and jollied each other and the management in pleasantries and deserved comment. The visitors accepted the proffer of the road and stayed away till morning.

THE Illinois State Conference of Charities convened at Kankakee, November 16. "Children of the State," "The Feebleminded Child," and "The Epileptic Child and His Future from a Medical Standpoint," were prominent features of the program.

DOCTOR C. G. LEO-WOLF, of Niagara Falls, New York, has invented an improved ratchet syringe for administering anesthesia by the Schleich infiltration method. It is fitted with six needles of different length and curvature, and three glasses containing tablets for making Schleich's three solutions, and is designed to overcome the resistance of dense tissues often experienced when using the ordinary syringe. Its strength is derived from a cog and lever action.

THE Red Cross medal is a new decoration founded by the German Emperor. It will be prepared in three styles—bronze, silver and gold—and bestowed on members of the guild who attain distinction by special service rendered in the cause of humanity. Persons of either sex, regardless of social position, are eligible to the decoration, credit for the creation of which is largely due to the persuasive power of Empress Victoria Augusta, patroness of the German Red Cross societies.

DOCTOR JOSEPH E. FULD, of New York City, has enriched the profession with a new centrifuge tube. It is made of glass and narrowed toward one extremity, which is provided with a snugly-fitting rubber stopper. The upper portion is considerably wider but acutely constricted at its extremity to admit of the pulp of the finger being utilized as an air-tight stopper so that when the rubber stopper containing the sediment is withdrawn the contents of the tube will be retained by atmospheric pressure.

THE Craig Colony authorities offer a prize of $100 for the best essay on original research in epilepsy. Competition is unrestricted but all papers must be written in English and sent to Doctor Frederick Peterson, 4 West Fiftieth street, New York City, on or before the 1st day of September, 1899. The rule governing the preparation and transmission of essays is similar to the one adopted for the Alvarenga contest and announced elsewhere in this department. The award will be made October 10, 1899.

THE plague recently appeared in Vienna. Nine cases, mostly of the pneumonic type, have been reported, the victims being physicians or hospital attendants. Three deaths occurred. As a result of the outbreak immigrants to this country will be thoroughly examined by consuls at ports of departure. Doctor Poch, who shut himself in the pavilion with the plague-stricken patients and rendered medical service until the last one recovered has already been decorated with the King's Cross of the Francis Joseph Order by the Austrian Emperor.

DOCTOR GEORGE W. HOLMES, an American physician in charge of the Presbyterian Medical Mission at Hamadan, Persia, has recently had conferred upon him by the Shah the highest decoration of the Order of the Lion and the Sun, barring one which is held in reserve for the prime minister. The doctor is a veteran medical missionary, having gone to Persia in 1874. While a resident of Tabriz he was chief consulting physician to the crown prince who has since become the Shah and invited him to render professional service to the harem household.

SECTIONAL buttons for intestinal anastomosis are prospective rivals of the Murphy coupler. Two have recently been introduced by Doctor I. B. Perkins, of Denver, who claims that their features of superiority over the button heretofore in vogue contemplate preservation of the entire lumen of the bowel and easy passage of the sections. One of the new-fangled affairs is constructed of eight pieces which are held in apposition by catgut ligature and gelatin coating, a spring supplying the pressure. In the other button, which is also built on the sectional plan, the pressure is derived from several strands of rubber.

RECENT PUBLICATIONS.

REVIEWS.

TREATMENT OF SKIN CANCERS.*

By the plain and practical presentation of this subject the author makes more generally available the non-operative though efficient methods of treating these growths. The matter is disposed in seven chapters under the following heads: Introduction; The Cause of Cancer; The Pathology of Cancer; The Forms of Cancer of the Skin; The Diagnosis of Cancer of the Skin; The Treatment of Cancer of the Skin; Illustrative Cases. The recognition and treatment of these affections are particularly emphsized and the caustic method receives especial attention. The illustrations are very good and well adapted to the purpose.

*By W. S. Gottheil, M. D., Professor of Dermatology at the New York School of Clinical Medicine; Dermatologist to the Lebanon Hospital, the Northwestern and West Side German Dispensaries. Price $1.00. New York: Published by The International Journal of Surgery Company.

DISEASES OF WOMEN: A MANUAL OF GYNECOLOGY.*

Taking this work for what it was intended we have nothing but commendation for it. Without asking for it the patronage of a text-book the author has presented the subject of Gynecology in a manner to be appreciated by students and busy practitioners. It is terse, sufficiently illustrated and intensely practical. The arrangement is systematic and style pleasing. We like also the publishers' make-up of the book.

*By Francis H. Davenport, M. D., Assistant Professor of Gynecology in the Medical Department of Harvard University, Boston. New (third) revised and enlarged edition. Cloth, $1.75, net. Philadelphia and New York: Lea Brothers & Company, 1898.

THE AMERICAN POCKET MEDICAL DICTIONARY.*

As a reliable, up-to-date and really handy pocket medical dictionary this little volume of five hundred pages is the best we have seen. It is said to contain more than twenty-six thousand medical and other scientific terms besides sixty tables. The definitions are short, clear and usually sufficient. The terms are happily printed in display type. The press work is clean and neat. On the whole it is an admirable little book.

*By W. A. Newman Dorland, A. M., M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania; Fellow of the American Academy of Medicine, et cetera. Price $1.25 net. Philadelphia: W. B. Saunders, 1898.

A MANUAL OF OTOLOGY.*

As a rule we do not favor compends or manuals, but a perusal of this small book leads us to look upon it as a veritable *multum in parvo*. While truly a manual, it is concise, tersely written, and surprisingly complete. We are pleased to note the absence of "reports of cases", and that the illustrations do not contain pictures of the author examining cases, as do so many special works nowadays. A pleasing introduction by Blake occupies several pages, but we fail to appreciate its *raison d'etre*, except as a compliment to the writer. The publishers have done their work well. The type, paper, and illustrations being very fine. E. S.

*By Gorham Bacon, A. B., M. D., Professor of Otology in Cornell University Medical College, New York; Aural Surgeon to the New York Eye and Ear Infirmary. New York and Philadelphia: Lea Brothers & Company, 1898.

THE INTERNATIONAL MEDICAL ANNUAL.*

The sixteenth volume of this excellent work sustains the high reputation achieved by preceding issues. The latest advances in medical practice are recounted in contributions from authors of special experience and exemplified by numerous illustrations. Indeed the present reference book eclipses previous editions in many respects, one especially noticeable feature contemplating an atlas of the bacteria pathogenic in the human subject, a valuable addition that will be completed in the next "Annual."

*E. B. Treat & Company, New York. Cloth; 740 pages. Price, $3.00.

ORIGINAL ABSTRACTS.

MEDICINE.

Simple Treatment of Earache.—Doctor Seth S. Bishop, in *The Times and Register*, advises the use of tobacco smoke blown through a lighted pipe. Over the mouth of the bowl place a clean cloth. A small pledget of cotton in the ear serves to filter the warm smoke, and a grateful sedative effect is soon produced.—*The Laryngoscope.*

* * *

Antitoxin Treatment of Pneumonia.—Doctor Andrew H. Smith gives a very interesting resume of the status of this treatment at the present time. While the outlook is very encouraging, there are still no decisive results to report. The difficulties in the case seem to be—(a) Short life of the peumococcus and its feeble power of resistance. (b) Unlooked for virulence often displayed in toxins. (c) Serum obtained from animals not always reliable, because they often lose their immunity in spite of renewed inoculations. The New York Board of Health are at present making effort to produce a reliable supply of antitoxin serum for trial of this method.—*The American Journal of the Medical Sciences*, October, 1898.

* * *

Employers and Intoxicants.—The following items of interest are taken from the *Bulletin of the Department of Labor*, edited by Carroll D. Wright. A sheet of inquiries was sent to 30,414 employers of labor, of whom 7,025 responded, employing 1,745,923 men. Of these inquiries the following are taken from "The Experience and Practice of Employers Relative to the Use of Intoxicants":

(a) 5,363 make inquiries as regards employes' habits and 1,613 do not.

(b) Reasons given for inquiry are stated in—

686 cases to guard against accidents.
555 cases responsibility of position.
134 cases unreliability of drinking men.
67 cases guard against poor work.

(c) 3,527 establishments forbid the use of intoxicating liquors.
3,265 establishments make no requirements as to liquors.

(d) 558 establishments have employes subject to overwork.
6,379 establishments do not.

(e) 2,081 establishments have employes subject to exposure to severe weather and 4,880 do not; of these 381 report that such employes were more addicted than others.

(f) 3,897 establishments state that employes are more addicted to the use of intoxicating liquors after pay day than at other times; 2,766 report the contrary.

(g) Means to lessen trouble from this cause.

METHODS TRIED.	ESTABLISHMENTS REPORTING MEANS.			
	EFFECTIVE.	NOT EFFECTIVE.	NOT REPORTING RESULTS.	TOTAL.
1 Discharge,	112	4	1,446	1,562
2 Change of pay day from Saturday,	92	17	115	224
3 Both (1) and (2),	73	6	132	211
4 Moral suasion,	11	8	164	183
5 Moral suasion and (1),	9	—	131	140
6 Warning and (1),	12	2	80	94
7 (2) and (4),	21	2	33	56
8 Suspension and (1),	5	1	48	54
9 Less frequent payment of wages,	37	4	12	53
10 Change of pay day to Saturday,	33	2	12	47
11 Warning,	4	—	40	44
12 Suspension,	8	1	23	32
13 Example and (4),	1	1	29	31
14 Alllowing no liquor on premises or drinking on duty,	2	1	25	28
15 Holding back wages,	11	2	15	28
16 Opposing locating saloons near premises, lessening number, or closing them,	1	1	25	27
17 Two hundred other means tried,	179	71	557	807
Total,	611	123	2,887	3,621

(h) What means, in your view, better than now employed, can be taken by employers, communities, organizations, municipalities, or states, to lessen the consumption of intoxicating liquor among the people?

1,103 establishments suggest prohibition.
769 establishments do not employ drinking men.
445 establishments suggest high license.
180 establishments suggest education.
1,132 establishments suggest 177 other means.

Arthur F. Fischer, M. D.

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